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Service Manual

ORDER NO.
CRT 1238

MULTI-CD CONTROL FM/MW/LW TUNER DECK AMPLIFIER

KEH-M7001B X1B

KEH-M5001B X1B

MULTI-CD CONTROL FM/MW/LW TUNER DECK

KEX-M801 X1B

Note:

- This service manual is designed to be used together with Model KEH-M7000B/EW, KEH-M5000B/EW and KEX-M800/EW.

Modle	Service Manual	Order No.
KEH-M7001B/X1B	KEH-M7000B/EW	CRT1235
KEH-M5001B/X1B	KEH-M5000B/EW	CRT1236
KEX-M801/X1B	KEX-M800/EW	CRT1234

- Refer to it for finding parts numbers and adjustment, etc. which are not shown in this manual.
- X1B model and EW model use the same schematic circuit diagram and connection diagram. Refer to EW model.

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EK JULY 1989 Printed in Japan

KEH-M7001B

PACKING METHOD

- Parts List (Page 49)

			KEH-M7000B/EW	KEH-M7001B/X1B
Mark	No.	Description	Part No.	Part No.
	1	Carton	CHG1596	CHG1619
	4-1	Owner's Manual	CRD1290	CRD1299
		Owner's Manual	CRD1291	— Deleted
	4-4	Card		
	5	Styrofoam(R)	CHP1217	CHP1227
	6	Cover	CEG-114	CEG-173
	7	Styrofoam(L)	CHP1216	CHP1226
	8-2	Fastener (Rough Surface)	CNM1716	CNM1841
	8-3	Fastener(Soft Surface)	CNM1717	CNM1842
	9	Accessory Assy	CEA1448	CEA1456

Accessory Assy(CEA1456)

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Screw(× 1)	CBA-102		4	Strap(× 1)	CNC-975
	2	Screw(× 1)	CBA1002		5	Bush(× 1)	CNV1009
	3	Cord(× 1)	CDE1289		6	Nut(× 2)	NF50FMC

CHASSIS EXPLODED VIEW

- Parts List (Page 37)

			KEH-M7000B/EW	KEH-M7001B/X1B
Mark	No.	Description	Part No.	Part No.
◉	6	Mechanism Control Unit	CWM1968	CWM2025
	13	Insulator		
◉	14	FM/AM Tuner Unit	CWE1146	CWE1164
	20	Insulator		
◉	22	Display Unit	CWS1145	CWS1146
	34	Insulator		
	61	Grille Assy	CXA2937	CXA3060
	69	Heat Sink		
	105	Insulator		
◉	112	Tuner Amp Unit	CWM1843	CWM1846
◉	118	Handle Assy	CXA2944	CXA3105
	121	Box	CNB1273	CNB1271
	123	Screw	CBA1073	CBA1097

Note:

- Although X1B and EW models carry different Part No. for No. 6 Mechanism Control Unit, the unit itself is identical.
- Although X1B and EW models carry different Part No. for No. 14 FM/AM Tuner Unit, the unit itself is identical.
- Although X1B and EW models carry different Part No. for No. 118 Handle Assy, the assy itself is identical.
- Since X1B and EW models use different Insulator (No. 34), Part No. for No. 22 Display Unit is different from each other.

KEH-M5001B

PACKING METHOD

- Parts List (Page 59)

			KEH-M5000B/EW	KEH-M5001B/X1B
Mark	No.	Description	Part No.	Part No.
	1	Carton	CHG1599	CHG1620
	4-1	Owner's Manual	CRD1290	CRD1299
		Owner's Manual	CRD1291	— Deleted
	4-4	Card		
	5	Styrofoam(R)	CHP1217	CHP1227
	6	Cover	CEG-114	CEG-173
	7	Styrofoam(L)	CHP1216	CHP1226
	9	Accessory Assy	CEA1448	CEA1456

Accessory Assy(CEA1456)

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Screw(× 1)	CBA-102		4	Strap(× 1)	CNC-975
	2	Screw(× 1)	CBA1002		5	Bush(× 1)	CNV1009
	3	Cord(× 1)	CDE1289		6	Nut(× 2)	NF50FMC

CHASSIS EXPLODED VIEW

- Parts List (Page 47)

			KEH-M5000B/EW	KEH-M5001B/X1B
Mark	No.	Description	Part No.	Part No.
◉	6	Mechanism Control Unit	CWM1967	CWM2026
	13	Insulator		
◉	14	FM/AM Tuner Unit	CWE1146	CWE1164
	20	Insulator		
◉	22	Display Unit	CWS1145	CWS1146
	34	Insulator		
	61	Grille Assy	CXA2940	CXA3062
	69	Heat Sink		
	105	Insulator		
◉	112	Tuner Amp Unit	CWM1847	CWM1850
◉	118	Handle Assy	CXA2944	CXA3105
	121	Box	CNB1273	CNB1271
	123	Screw	CBA1073	CBA1097

Note:

- Although X1B and EW models carry different Part No. for No. 6 Mechanism Control Unit, the unit itself is identical.
- Although X1B and EW models carry different Part No. for No. 14 FM/AM Tuner Unit, the unit itself is identical.
- Although X1B and EW models carry different Part No. for No. 118 Handle Assy, the assy itself is identical.
- Since X1B and EW models use different Insulator (No. 34), Part No. for No. 22 Display Unit is different from each other.

KEX-M801

CHASSIS EXPLODED VIEW

- Parts List (Page 65)

			KEX-M800/EW	KEX-M801/X1B
Mark	No.	Description	Part No.	Part No.
◉	4	Audio Tuner Unit	CWM1881	CWM1883
◉	35	Mechanism Control Unit	CWM1968	CWM2025
	40	Insulator		
◉	42	FM/AM Tuner Unit	CWE1146	CWE1164
	66	Holder Assy		
	68	Grille Assy		

Note:

- Although X1B and EW models carry different Part No. for No. 35 Mechanism Control Unit, the unit itself is identical.
- Although X1B and EW models carry different Part No. for No. 42 FM/AM Tuner Unit, the unit itself is identical.

HOLDER ASSY AND GRILLE ASSY EXPLODED VIEW

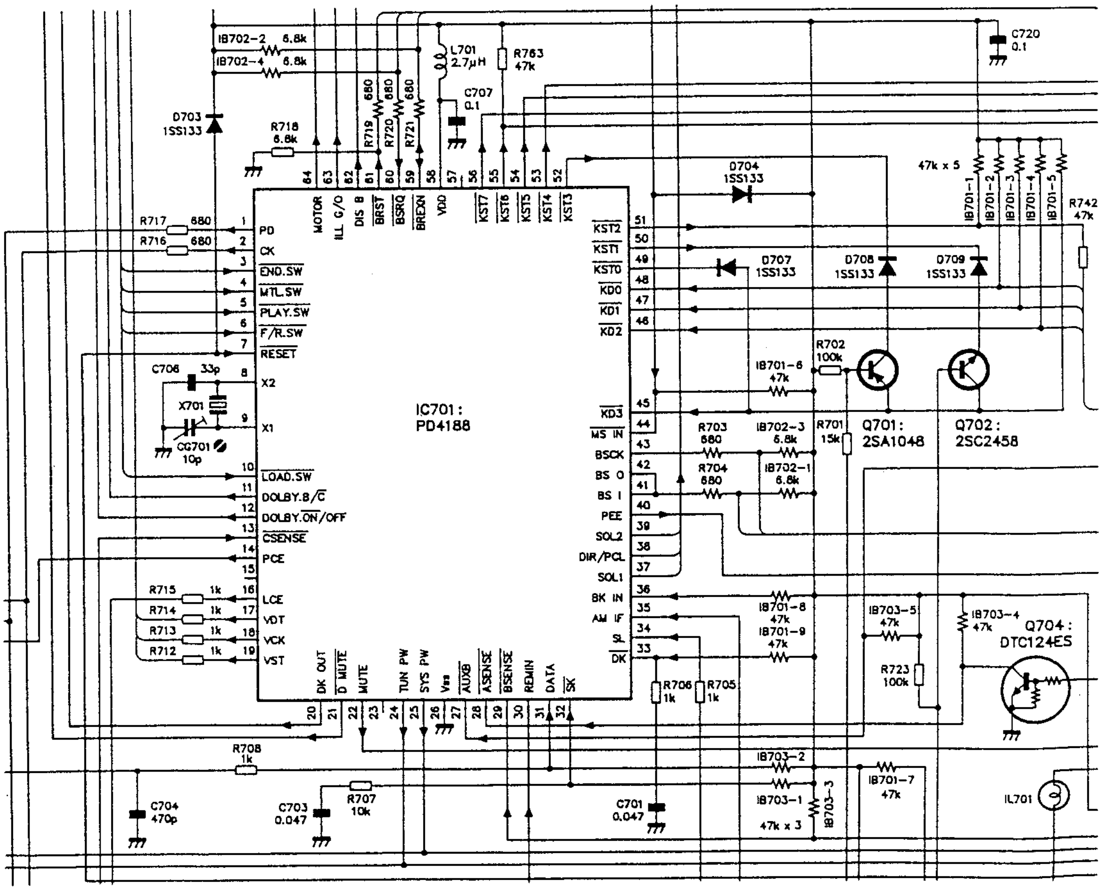
- Parts List (Page 62)

			KEX-M800/EW	KEX-M801/X1B
Mark	No.	Description	Part No.	Part No.
◉	5	Display Unit	CWS1138	CWS1139
	17	LCD	CAW1042	CAW1057
	31	Grille Unit	CXA2834	CXA2835

SCHEMATIC CIRCUIT DIAGRAM

The schematic circuit diagram for KEX-M801/X1B is the same as the KEX-M800/EW except for following point:

- D707 has been added to the KEX-M800/EW (Mother P.C.Board)


IB702-2 6.8k
IB702-4 6.8k
L701 2.7μH
R763 47k
C707 0.1
C720 0.1
D703 1SS133
R718 6.8k
R719 680
R720 680
R721 680
64 MOTOR
63 ILL G/O
62 DIS B
61 BRST
60 BSRQ
59 BREXN
58 VDD
57
56 KST7
55 KST6
54 KST5
53 KST4
52 KST3
R717 680
R716 680
1 PD
2 CK
3 END.SW
4 MTL.SW
5 PLAY.SW
6 F/R.SW
7 RESET
C706 33p
8 X2
X701
9 X1
CG701 10p
10 LOAD.SW
11 DOLBY.B/C
12 DOLBY.ON/OFF
13 CSENSE
14 PCE
15
R715 1k 16 LCE
R714 1k 17 VDT
R713 1k 18 VCK
R712 1k 19 VST
IC701: PD4188
51 KST2
50 KST1
49 KST0
48 KD0
47 KD1
46 KD2
45 KD3
44 MS IN
43 BSCK
42 BS O
41 BS I
40 PEE
39 SOL2
38 DIR/PCL
37 SOL1
36 BK IN
35 AM IF
34 SL
33 DK
20 DK OUT
21 D MUTE
22 MUTE
23
24 TUN PW
25 SYS PW
26 Vss
27 AUXB
28 ASENSE
29 BSENSE
30 REMIN
31 DATA
32 SX
D704 1SS133
D707 1SS133
D708 1SS133
D709 1SS133
47k x 5
IB701-1
IB701-2
IB701-3
IB701-4
IB701-5
R742 47k
R702 100k
IB701-6 47k
Q701: 2SA1048
Q702: 2SC2458
R703 680
IB702-3 6.8k
R701 15k
R704 680
IB702-1 6.8k
IB701-8 47k
IB701-9 47k
IB703-5 47k
IB703-4 47k
Q704: DTC124ES
R723 100k
R706 1k
R705 1k
R708 1k
C704 470p
C703 0.047
R707 10k
C701 0.047
IB703-2
IB703-1
IB703-3
47k x 3
IB701-7 47k
IL701

ELECTRICAL PARTS LIST

- Parts List (Page 72)

Audio Tuner Unit

		KEX-M800/EW	KEX-M801/X1B
Mark	Circuit Symbol and No.	Part No.	Part No.
*	D707	——	1SS133 Added

Display Unit

		KEX-M800/EW	KEX-M801/X1B
Mark	Circuit Symbol and No.	Part No.	Part No.
	LCD	CAW1042	CAW1057

PACKING METHOD

- Parts List (Page 78)

			KEX-M800/EW	KEX-M801/X1B
Mark	No.	Description	Part No.	Part No.
	1	Carton	CHG1594	CHG1626
	4-2	Fastener(Rough Surface)	CNM1716	CNM1841
	4-3	Fastener(Soft Surface)	CNM1717	CNM1842
	5-1	Owner's Manual	CRD1286	CRD1304
		Owner's Manual	CRD1287	— Deleted
	5-2	Caution Card		
	5-4	Card		
	6	Styrofoam(R)	CHP1212	CHP1232
	7	Cover	CEG1043	CEG-173
	8	Styrofoam(L)	CHP1211	CHP1231
	9	Accessory Assy	CEA1426	CEA1457

Accessory Assy(CEA1457)

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Screw(× 1)	CBA-102		6	Handle(× 2)	CNC1631
	2	Screw(× 1)	CBA1002		7	Strap(× 1)	CNC2840
	3	Screw(× 2)	CBA1116		8	Bush(× 1)	CNV1009
	4	Spring(× 2)	CBH-865		9	Cap(× 2)	CNV2156
	5	Cord(× 1)	CDE1289		10	Nut(× 2)	NF50FMC

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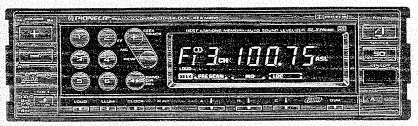
Service Manual

- KEH-M800/EW



ORDER NO.
CRT 1234

MULTI-CD CONTROL FM/MW/LW (FM/AM) TUNER DECK

KEX-M800 EW, ES, UC
KEX-M800SDK WG

SPECIFICATIONS

General

Power source	14.4 V DC (10.8–15.6 V allowable)
Grounding system	Negative type
Weight	1.7 kg (3.7 lbs.)
Tone controls (bass)	±10 dB (100 Hz)
(middle)	±10 dB (1 kHz)
(treble)	±10 dB (10 kHz)
Loudness contour	+12 dB (100 Hz), +7 dB (10 kHz) (volume: −30 dB)
Output impedance	1 kΩ

KEX-M800SDK/WG, KEX-M800/EW

Max. current consumption	1.0 A
Dimensions (chassis)	180(W) × 50(H) × 152(D) mm
(front face)	188(W) × 58(H) × 12(D) mm
Maximum output level	250 mV

KEX-M800/ES, KEX-M800/UC

Dimensions (chassis)	178(W) × 50(H) × 155(D) mm [7(W) × 2(H) × 6-1/8(D) in.]
(nose)	170(W) × 46(H) × 10(D) mm [6-3/4(W) × 1-3/4(H) × 3/8(D) in.]
Preout output level	500 mV

Tape player

Tape	Compact cassette tape (C-30—C-90)
Tape speed	4.76 cm/sec. (+0.14 cm/sec., −0.05 cm/sec.)
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.08% (WRMS)
Frequency response	Metal: 25—22,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	Metal: Dolby C NR IN: 73 dB (IHF-A network) Dolby B NR IN: 67 dB (IHF-A network) Dolby NR OUT: 61 dB (IHF-A network)

FM tuner

Frequency range (KEX-M800SDK/WG, KEX-M800/EW)	87.5—108 MHz
Frequency range (KEX-M800/ES, UC)	87.9—107.9 MHz (200 kHz)
(KEX-M800/ES)	87.5—108 MHz (50 kHz)
Usable sensitivity	11 dBf (1.0 µV/75Ω, mono)
50 dB quieting sensitivity	16 dBf (1.7 µV/75Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	25—15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

KEX-M800/UC

Selectivity	80 dB (2ACA)
Three-signal intermodulation (desire signal level)	45 dBf (two undesire signal level: 110 dBf)

MW (AW)-Tuner

Frequency range (KEX-M800/ES, UC)	530—1,710 kHz (10 kHz)
(KEX-M800SDK/WG, KEX-M800/EW, ES)	531—1,602 kHz (9 kHz)
Usable sensitivity	18 µV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±10 kHz) 50 dB (±9 kHz)

LW-Tuner (KEX-M800SDK/WG, KEX-M800/EW)

Frequency range	153—281 kHz
Usable sensitivity	30 µV (30 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

Note:
Specifications and the design are subject to possible modification without notice due to improvements.

- **Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.**

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X-M800

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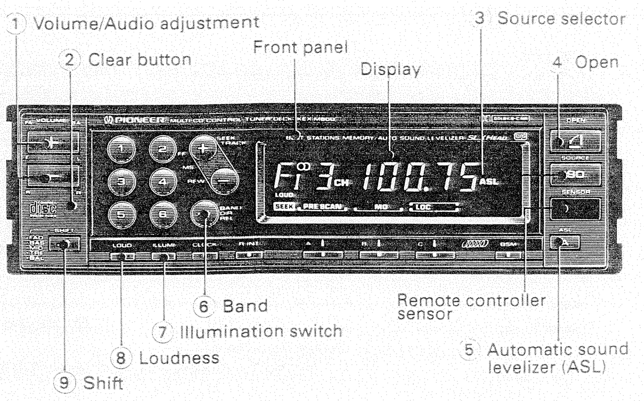
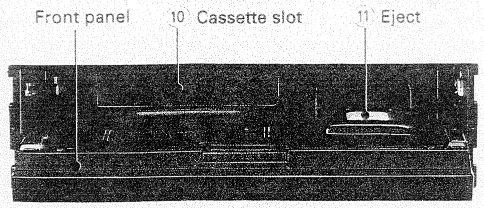
1. ADJUSTING VOLUME AND TONE



KEX-M800/EW



Using the Clear Button

Once all wiring is complete, press button ② with a thin, pointed object. Though not a normal occurrence, the microprocessor which controls the operation of this unit can be affected by electrostatic noise. This generally is indicated by such symptoms as no power being supplied when you switch the unit on, failure of buttons and controls, or an abnormal display. Should this happen, press button ② with a thin, pointed object to reset the microprocessor. Note that doing so also resets all audio controls, so you will have to make any desired settings again. This operation deletes all memory contents, such as frequencies stored in the preset memory, so you will have to make any desired settings again.

Switching Power On

Tuner

Press button ③ to switch the tuner power on. Press button ③ again to switch the power off.

Tape

Press button ④ to open the front panel, and load a cassette in through cassette slot ⑩. The cassette will play. To eject the cassette, press button ④ to open the front panel and press button ⑪.

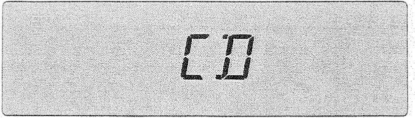
Note:

- None of the operation buttons except button ⑪ work while the front panel is open. Use the control buttons after shutting the front panel.
- During operation, the power to this unit is turned off if the engine is started or if the ignition is turned off then to ACC or ON again while the front panel is open. In this case, close the front panel to resume operation.

Source Selector

When a cassette is loaded and button ③ is pressed, the source shifts in the order tape → tuner → power off. If this unit is combined with a multi-play CD player sold separately such as CDX-M70, or if a CD player is connected to the auxiliary input (AUX), the source shifts in the order multi-play CD player → tape → tuner → AUX (CD player).

- If a CD player is connected to the auxiliary input (AUX), the power to this unit will not switch off, even if button ③ is pressed, when the CD player is operating. To switch the power off, stop the CD player.
- When the source is switched to AUX (CD player), the display indicates CD.



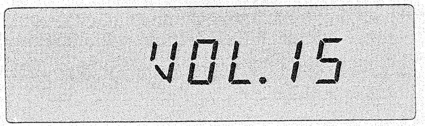
Adjusting Audio

Press button ① to adjust the volume. Each press of button ⑨ changes the display and the function of button ① as follows:

Volume → Fader → Bass → Middle → Treble → Balance

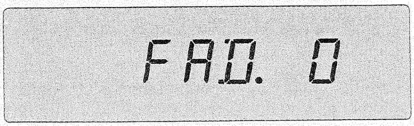
Adjusting Volume

Pressing the (+) side of button ① increases the volume, while the (–) side decreases it.



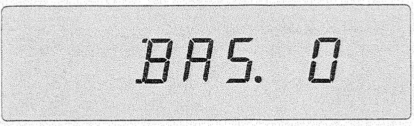
Adjusting the Fader

This function controls the balance between the front and rear speakers of a 4-speaker system. Pressing the (+) side of button ① shifts the balance to the front speakers, while the (–) side shifts it to the rear speakers.
For 2-speaker systems, set FAD. 0.



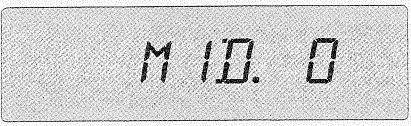
Adjusting Bass

Pressing the (+) side of button ① increases bass, while the (–) side decreases bass.



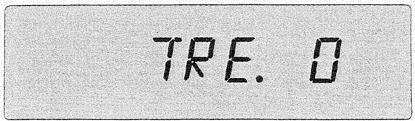
Adjusting Middle

Pressing the (+) side of button ① increases middle, while the (–) side decreases middle.



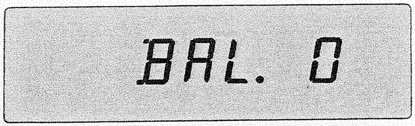
Adjusting Treble

Pressing the (+) side of button ① increases treble, while the (–) side decreases treble.



Adjusting Balance

Pressing the (+) side of button ① shifts the balance to the left speaker, while the (–) side shifts it to the right speaker.



- When you're adjusting fader, bass, middle, treble, or balance settings, the indicator will stop at the center setting. About 5 seconds after adjustment has been made, the display returns to its previous state.

ASL (Automatic Sound Levelizer)

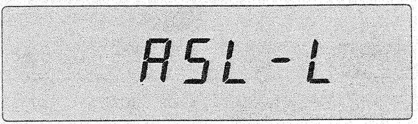
Press button ⑤ to operate ASL (automatic sound levelizer). ASL monitors the noise inside the vehicle, which changes according to the driving speed and the road conditions, and automatically increases the volume when the noise increases. (ASL is shown on the display.)

- At high volume, ASL automatically reduces the selected intensity if it will make the volume too loud.
- If ASL operates and the volume becomes too high, the sound may be distorted. In this case, reduce the volume.

ASL Intensity Selection

ASL has three different intensity modes (increases in volume according to noise). The greatest increase is obtained with ASL-H, followed by ASL-M, then ASL-L.

1. Hold down button ⑤ for at least 2 seconds. The current ASL mode will be shown on the display for about 5 seconds.



(Example: ASL-L)

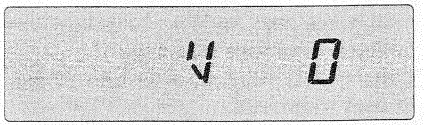
2. While the display indicates an ASL mode, press either the (+) or (–) side of button ① to change the ASL mode.

- About 5 seconds after the ASL mode has been changed, the display returns to the previous indication.

Using Source Level Adjuster

You may wish to adjust volume when you have changed the source to radio, tape, or CD or when you have changed the radio band from FM to MW/LW. You can do so on the basis of the volume of FM as follows:

1. Use the button ③ to change the source. (In case of radio, change the band to MW/LW.)
2. Hold down the button ⑨ for about 2 seconds, and the display will show you the volume of the source.



3. To increase the volume, press the (+) side of the button ①, and to decrease press the (–) side. You can adjust the volume within a span of V -4 and V 4. The display automatically returns to the previous showing when five seconds have elapsed after the adjustment.

- No adjustment can be made when an FM station is tuned in.

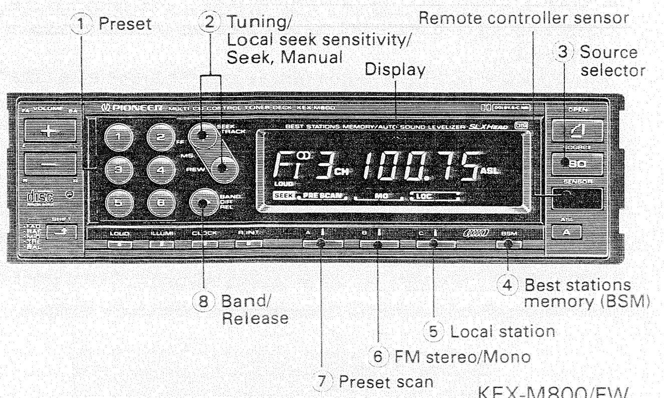
Using the Loudness Function

Press button ⑧ and the LOUD indicator will appear on the display. This "loudness" function enhances both the high and low ranges of sound to give even more power to output even at low volumes.

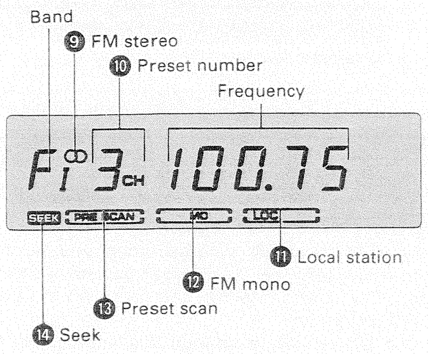
Switching Illumination Colour

Press button ⑦ to switch illumination colour between green and amber. Pressing clear button ② causes the illumination to be turned amber.

2. USING THE TUNER



KEX-M800/EW



1 Press button ③ to switch the tuner power on.

2 Press button ⑧ to select a band.

FI → FII → FIII → M/L
(FM1) (FM2) (FM3) (MW/LW)

Use button ② to switch between MW (531–1,602 kHz) and LW (153–281 kHz).

3 Use seek tuning to tune in a frequency.

Confirm that the SEEK indicator ⓮ is shown on the display (if not, press the (+) and (–) sides of button ② at the same time).

Press the (+) side of button ② to automatically tune in the next higher receivable frequency, and the (–) side for a lower frequency.

4 Adjust volume and tone (see page 2).

5 Assign the tuned frequency to one of the buttons in bank ① (preset memory).

Press and hold down one of the buttons in bank ① for at least two seconds. The frequency is assigned to the selected button when the preset number ❿ stops flashing on the display. Up to 18 FM stations (6 each for FM1, FM2 and FM3) and six MW/LW stations can be assigned to the preset memory buttons in bank ①.

6 Once a frequency is assigned to a button in bank ①, you just need to press that button to tune it in.

This also causes the number of the button pressed to appear at position ❿ on the display.

Preset Scan Tuning

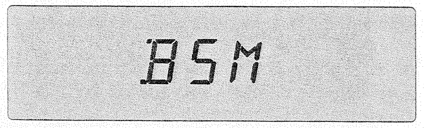
This function lets you automatically monitor the stations assigned to the preset buttons.

1. Press button ⑦. (Bar ⓭ appears.) Preset number ❿ flashes and each station in the memory for button ① is sequentially called for 8 seconds.
2. When you hear a station that you like, press button ⑦ again to cancel preset scan tuning and remain at that station.

BSM (Best Stations Memory)

This function automatically locates stronger stations and automatically assigns their frequencies to the buttons in bank ①, from strongest to weakest. It comes in handy when trying to find local stations while driving.

1. Press button ⑧ and select a band.
2. Hold down button ④. After about two seconds, a "beep" will sound to signal that the BSM search has started. At this time, BSM will flash on the display.



3. The frequency display will return once BSM search is complete, and frequencies are assigned to buttons 1 through 6 in bank ①.

- At the end of the BSM search, the displayed frequency is that assigned to button ① of bank ①.
- If there are fewer than six strong stations in the area, some of the buttons in bank ① will not be assigned frequencies, so they will retain any frequencies assigned to them previously.
- BSM search may take as long as 30 seconds in areas where there are few strong stations.
- You can cancel BSM search by pressing button ⑧.

Manual Tuning

Use manual tuning when stations are too weak to be picked up by seek tuning.

1. Press both (+) and (–) sides of button ② at the same time to clear SEEK ⓮.
2. Each press of the (+) side of button ② increases the frequency in 50 kHz steps in the FM band, 9 kHz in the MW band and 1 kHz in the LW band. Pressing the (–) side of button ② decreases the frequency. Holding down either side of button ② changes the frequency at high speed.

Switching between FM Stereo and Mono

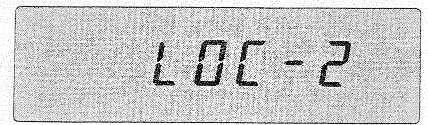
Generally, it is best to allow the ARC (Automatic Reception Control) function to automatically set the optimum listening conditions. When there is a large amount of noise, you can press button ⑥ for clearer, mono reception (bar ⓬ appears).

Adjusting Seek Sensitivity

The seek tuning function of this tuner lets you select between a local setting for reception of strong stations only, and a DX (distant) setting for reception of weaker stations. The local setting also has four seek tuning sensitivity levels for FM and two levels for MW/LW to match local conditions.

Changing the Local Seek Sensitivity

1. Use button ⑧ to select a band.
2. Hold down the button ⑤ for more than two seconds, and the display will show you the current local seek sensitivity for about five seconds.



(Example: LOC-2)

3. While the local seek sensitivity remains on the display, press the (+) side of button ② to increase the sensitivity level, and the (–) side to decrease the level as shown below.

FM : LOC-1⇄LOC-2⇄LOC-3⇄LOC-4
MW/LW : LOC-1⇄LOC-2

The LOC-**4** setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.

- The display of local seek sensitivity returns to the frequency when about five seconds have elapsed after the change of sensitivity.

Switching between Local and DX

Press button ⑤ to switch between Local and DX (distant) seek tuning.
When bar ⓫ is shown on the display, seek tuning is performed with the local seek sensitivity. Otherwise, seek tuning is performed with the DX seek sensitivity.

Note on LW Band Seek Tuning

The following shows changes in LW BAND broadcast frequency steps enacted by WARC/1979. The underlined italic figures indicate changes.

A. Up to January 1986
155-164-173-182-191-200-209-218-227-236-245-254-263-272-281

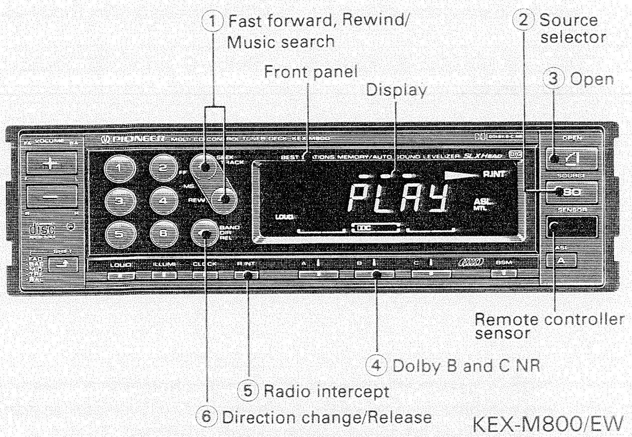
B. From February 1986
153-162-171-180-189-200-209-218-227-236-245-254-263-272-281

C. From February 1988
153-162-171-180-189-*198-207-216-225-234*-245-254-263-272-281

D. From February 1990
153-162-171-180-189-198-207-216-225-234-*243-252-261-270-279*

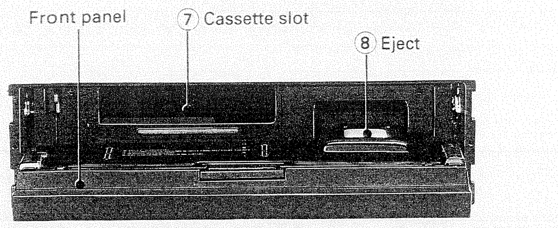
The LW band seek operations of this unit are performed in 9 kHz steps starting from 153 kHz. In the case of C, the first ten frequencies are identical to each station being broadcast, while the remaining five are shifted (2 kHz each). Consequently, manual tuning (in 1 kHz steps) and seek tuning should be used together to tune in the desired LW broadcast. It is also suggested that your favorite LW stations will be memorized for instant recall.

3. USING THE TAPE DECK

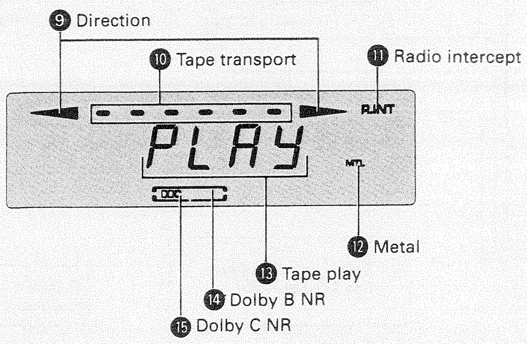


① Fast forward, Rewind/ Music search
② Source selector
Front panel
Display
③ Open
PIONEER
VOLUME
DISC
PLAY
RINT
LOUD
MTL
SOURCE
SENSOR
Remote controller sensor
④ Dolby B and C NR
⑤ Radio intercept
⑥ Direction change/Release

KEX-M800/EW



Front panel
⑦ Cassette slot
⑧ Eject



❾ Direction
❿ Tape transport
⓫ Radio intercept
RINT
PLAY
MTL
⓬ Metal
⓭ Tape play
⓮ Dolby B NR
⓯ Dolby C NR

1 Press button ③ to open the front panel.

2 Load a cassette in through the cassette slot ⑦. The cassette will play.

Tape play ⓭, tape transport ❿, and direction ❾ appear.

3 Close the front panel and adjust volume and tone (see page 2).

4 To stop play halfway, press button ② to switch the function off.

To restart play, press button ② some times until PLAY ⓭ appears on the display. The tape begins playing at the position where it stopped.

5 To eject the cassette, press button ③ to open the front panel and press button ⑧.

Note:

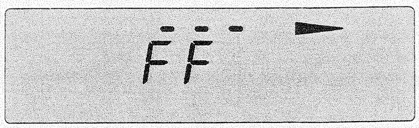
- The power is not switched on even if a cassette is loaded in through cassette slot ⑦, if the engine is started or if the ignition is turned off then to ACC or ON again while the front panel is open. In this case, close the front panel to switch the power on and start play.
- Power is automatically turned off when the cassette tape has not been set within a few seconds. When this happens, remove the tape by pressing the button ⑧ because of a possible trouble with the tape.
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.

Changing Program

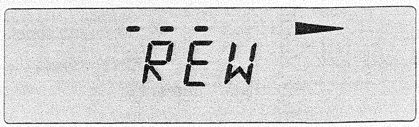
Press the button ⑥ to change the side of tape from A to B or vice versa.

Using Fast Forward and Rewind

1. To fast-forward tape, press the (+) side of the button ①.



To rewind tape, press the (–) side.



2. To release the fast forward or rewind function, press the button ⑥.

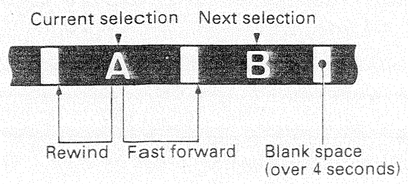
Using Radio Intercept

Use radio intercept to hear radio while fast forward or rewinding.

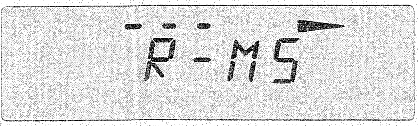
1. Press the button ⑤ (R.INT ⓫ appears) before fast forward or rewinding, and you will hear radio.
2. To release the radio intercept function, press the button ⑤ again.

- The radio intercept does not function when the music search is in operation.

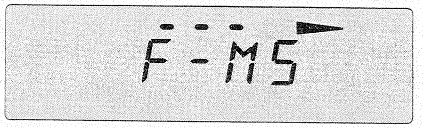
Using Music Search


Current selection
Next selection
A
B
Rewind
Fast forward
Blank space
(over 4 seconds)

1. To repeat the current selection (A), press the (–) side of the button ① two consecutive times.



To hear the following piece of music (B) rather than continue the current selection, press the (+) side of the button ① two consecutive times. Pressing the button ① three consecutive times makes the normal sequence of playing resume.



2. To release the music search function, press the button ⑥.

The following errors will cause the music search function to operate improperly, even though the unit is not malfunctioning.

- Unrecorded blank portion between selections is less than 4 seconds → the blank portion cannot be detected by the unit.
- Pauses in recorded conversations are longer than 4 seconds → the unit reads these as blanks between selections.
- Portions are recorded at very low volume for more than 4 seconds → the unit reads these as blanks between selections.

Dolby B and C NR

Press button ④ to listen to a cassette recorded using the Dolby NR system. Each press of button ④ shifts the Dolby NR mode as follows:

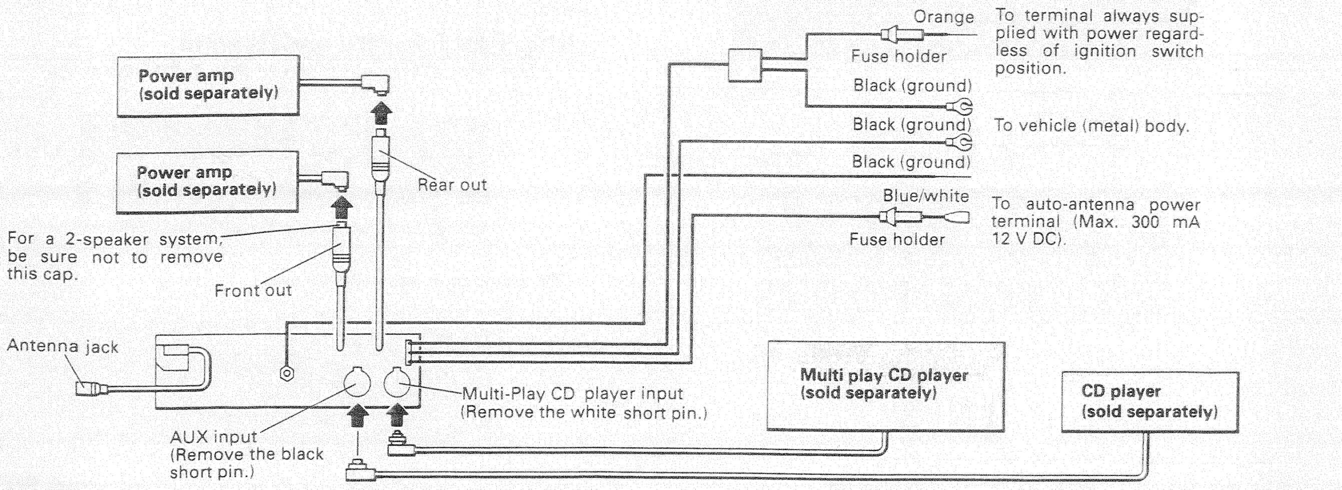
Dolby B NR (Bar ⓮ appears) → Dolby C NR (C ⓯ appears) → Dolby NR off.

Auto Tape Selector

When a cassette tape is inserted, the automatic tape selector determines the tape type, and switches between 70 µs and 120 µs equalization. When it is a metal or chrome tape, MTL ⓬ comes on. When it is a normal tape, nothing comes on.

4. CONNECTING THE UNITS

- Before making final connections, make temporary connections then operate the unit to check for any connecting cord problems.
- Refer to the owner's manual for details on connecting the various cords of the power amp and other units then make connections correctly.
- Be sure to connect the memory power supply lead (orange) to a terminal that is always supplied with power regardless of the vehicle's ignition switch position. If this connection is made incorrectly or is forgotten, the unit will not work at all.
- Don't pass that orange lead through a hole into the engine compartment to connect to the battery. This will damage the lead insulation and cause a very dangerous short.
- When the multi-play CD player input or the AUX input is not in use, leave the short pin on it.
- For 2-speaker systems, wire the rear output cord to the main amp.


Orange
Fuse holder
To terminal always supplied with power regardless of ignition switch position.
Black (ground)
Black (ground)
To vehicle (metal) body.
Black (ground)
Blue/white
Fuse holder
To auto-antenna power terminal (Max. 300 mA 12 V DC).
Power amp (sold separately)
Power amp (sold separately)
Rear out
For a 2-speaker system, be sure not to remove this cap.
Front out
Antenna jack
Multi-Play CD player input (Remove the white short pin.)
AUX input (Remove the black short pin.)
Multi play CD player (sold separately)
CD player (sold separately)

5. DISASSEMBLY

• Removing the Case

1. Insert and turn a flat screwdriver to remove the case.
2. Raise the case to remove.

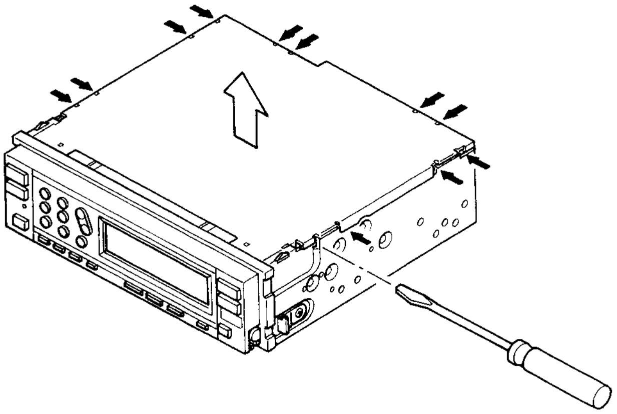


Fig. 1

• Removing the Cassette Mechanism Assy

1. Remove the four screws.
2. Disconnect the mechanism control unit connector.
3. Remove the cassette mechanism assy.

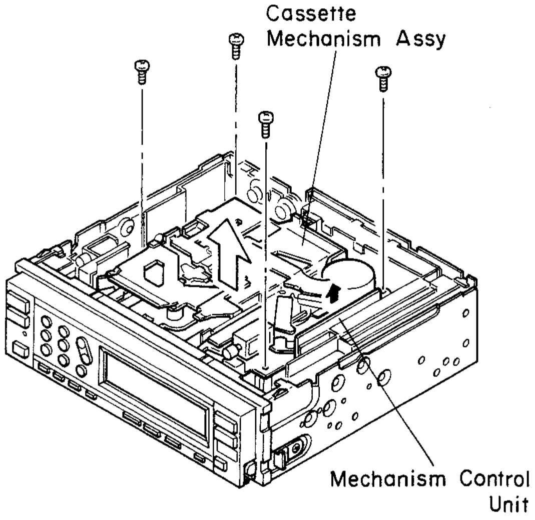

Cassette
Mechanism Assy
Mechanism Control
Unit

Fig. 2

• Removing the Grille Assy

1. Press the solenoid lever in the direction of the arrow to open the grille assy. (Fig. 3)

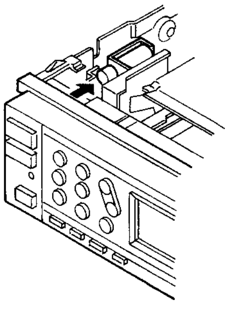


Fig. 3

2. While holding down the lock button, pull the grille assy toward you. (Fig. 4)

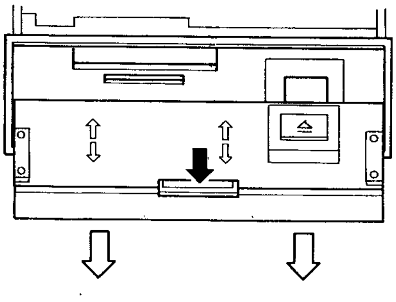


Fig. 4

• Removing the Holder Assy

1. Remove the two screws. (Fig. 5)
2. Disconnect the four connectors. (Fig. 6)
3. Press the tabs at three locations indicated by arrows, and then pull out the holder assy. (Fig. 6)

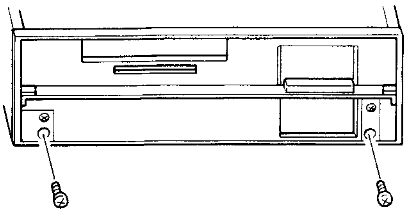


Fig. 5

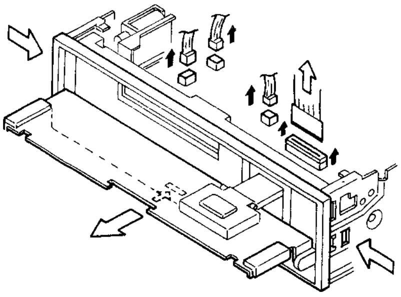


Fig. 6

• Removing the Display Unit

1. Remove the three screws, and then remove the cover unit.
2. Remove the three screws, and then remove the display unit.

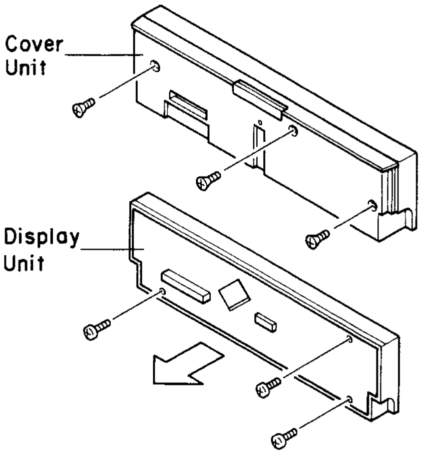


Fig. 7

• Removing the Audio Tuner Unit

1. Remove the three screws A, and then remove the holder.
2. Remove the two screws B.
3. Unbend the tab indicated by arrow until straight.
4. Raise up on audio tuner unit to remove it from chassis unit.

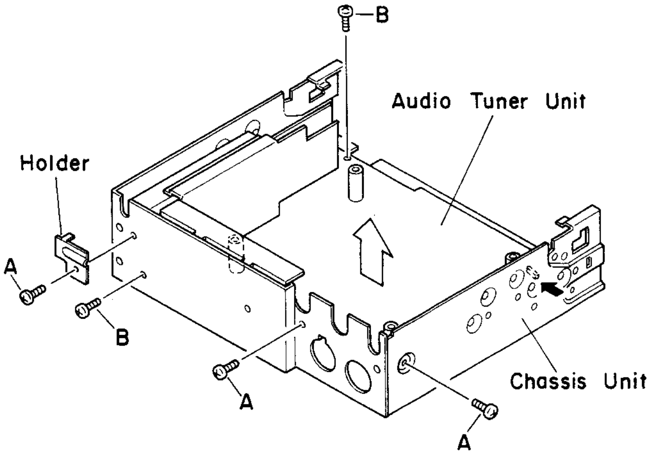

B
Audio Tuner Unit
Holder
A
B
A
Chassis Unit
A

Fig. 8

• Removing the Amp P.C. Board and FM/AM Tuner Unit

1. Remove the solders and unbend the tabs on back of each unit circuit board until straight.
2. Pull out unit as shown in illustration.

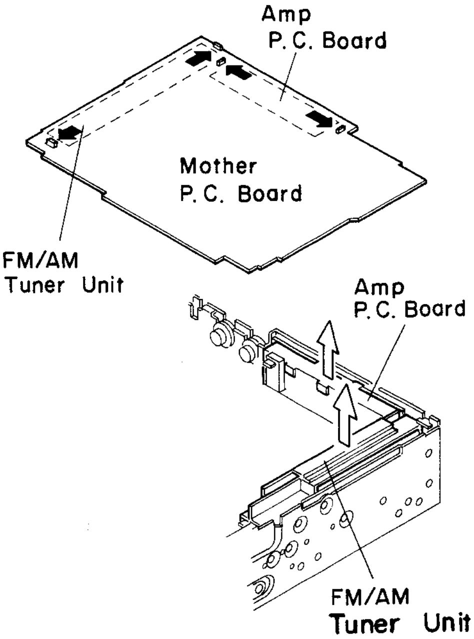

Amp
P. C. Board
Mother
P. C. Board
FM/AM
Tuner Unit
Amp
P. C. Board
FM/AM
Tuner Unit

Fig. 9

6. ADJUSTMENT

- **Connection Diagram**

NOTICE:
Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.
Z: Output impedance of SSG.

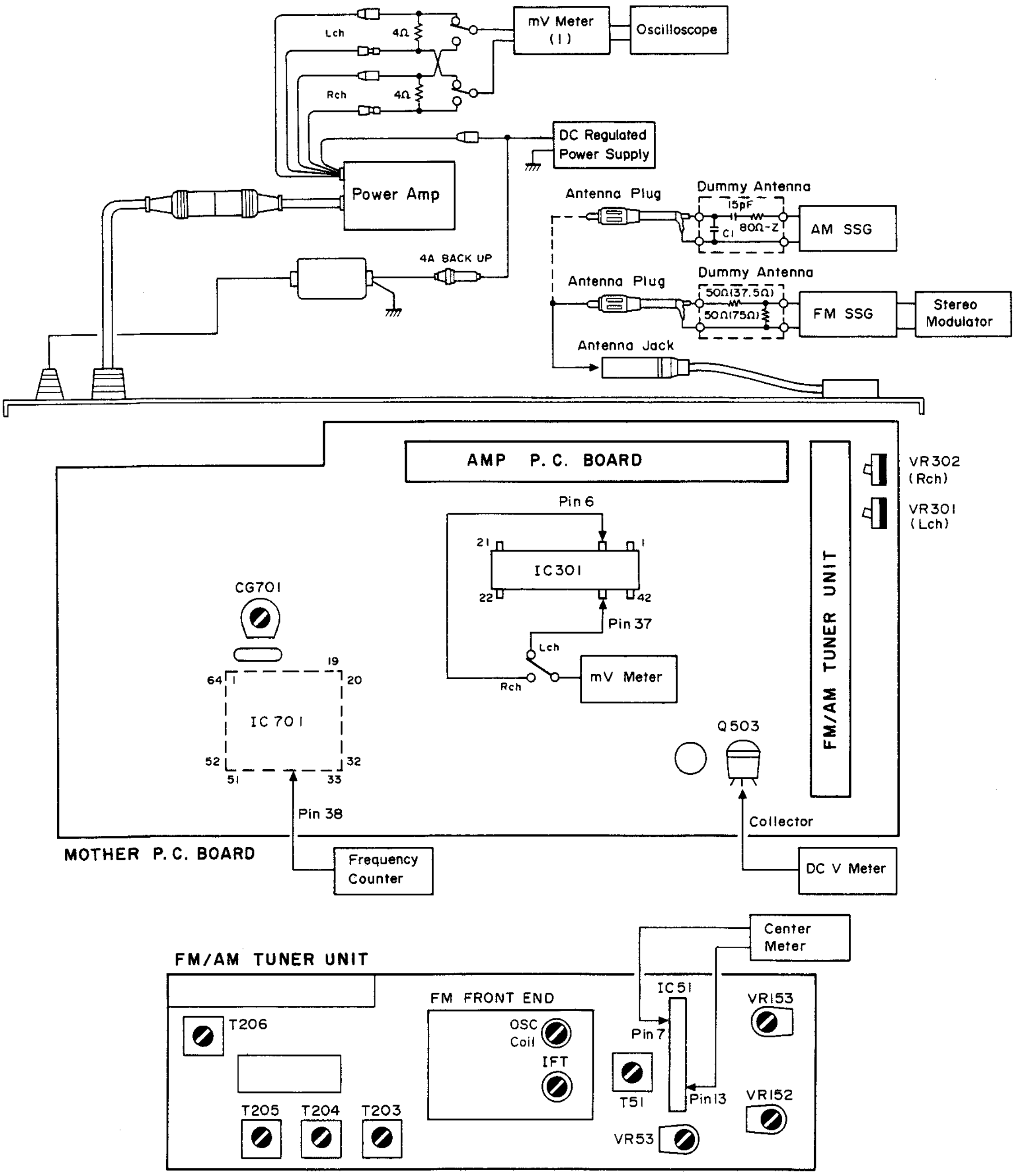

Lch
4Ω
Rch
4Ω
mV Meter (1)
Oscilloscope
DC Regulated Power Supply
Power Amp
4A BACK UP
Antenna Plug
Dummy Antenna
15pF
C1
80Ω-Z
AM SSG
Antenna Plug
Dummy Antenna
50Ω(37.5Ω)
50Ω(75Ω)
FM SSG
Stereo Modulator
Antenna Jack
AMP P. C. BOARD
Pin 6
21
1
IC301
22
42
Pin 37
Lch
Rch
mV Meter
VR302 (Rch)
VR301 (Lch)
FM/AM TUNER UNIT
CG701
64
1
19
20
IC 701
52
51
33
32
Pin 38
Q503
Collector
MOTHER P. C. BOARD
Frequency Counter
DC V Meter
Center Meter
FM/AM TUNER UNIT
T206
FM FRONT END
OSC Coil
IFT
IC51
Pin 7
T51
Pin13
VR153
VR152
VR53
T205
T204
T203

Fig. 10

DOLBY NR LEVEL ADJUSTMENT

No.	Cassette Tape	Adjusting Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz, 200nwb/m)	VR301 (Lch), VR302 (Rch)	mV Meter: -8.2dBs ± 1dB (Dolby NR Switch: OFF, METAL Switch: OFF)

CLOCK ADJUSTMENT

No.	Adjusting Point	Adjustment Method (Switch Position)
1		Pin 45 of IC701 connect to pin 51 of IC701
2	CG701	Frequency Counter:1,048,576Hz±1Hz

MW/LW ADJUSTMENT (KEX-M800SDK/WG, KEX-M800/EW)

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dBμV)			
Tuning Volt	1	(MW Mode)		1,602	T203	DC V Meter:Less than 7.0V
	2	(LW Mode)		153		Verify that DC V Meter is more than 2.0V
IF	1	999	20－25	999	T204, T205, T206	mV Meter(1):Maximum

AM ADJUSTMENT (KEX-M800/ES, UC) *:ES model when tuning step at 9kHz.

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dBμV)			
Tuning Volt	1			1,710 *(1,602)	T203	DC V Meter:Less than 7.0V
	2			530 *(531)		Verify that DC V Meter is more than 2.0V
IF	1	1,000 *(999)	20－25	1,000 *(999)	T204, T205, T206	mV Meter(1):Maximum

FM ADJUSTMENT ※Stereo MOD.:1kHz, L+R=90%, Pilot=10% *:ES model when tuning step at 50kHz.

	No.	FM SSG (400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dBμV)			
Tuning Volt	1			108.0 (WG, EW) 107.9 (ES, UC) *(108.0)	OSC Coil (FM Front End)	DC V Meter:7.0V
IF	1	98.1 Unmodulated	60	98.1	T51	Center Meter:0
	2	98.1	5	98.1	IFT (FM Front End)	mV Meter(1):Maximum
Mute	1	98.1	60	98.1		mV Meter(1):A dB (This output is A)
	2	98.1	10	98.1	VR53	mV Meter(1):A-3dB
ARC	1	98.1※	60	98.1	VR153	mV Meter(1):Separation Maximum (Stereo Position)
	2	98.1※	35	98.1	VR152	mV Meter(1):Separation 5dB (Stereo Position)

7. CASSETTE MECHANISM DISASSEMBLY

Note: Always use new washer and E washer at the time of reassembling.

• Dismounting the Cassette Holder

1. Remove the three springs.
2. Take off E washer, and then remove the arm unit.
3. Make the claw straight.
4. Shift the cassette holder toward the left and pull it out from above.

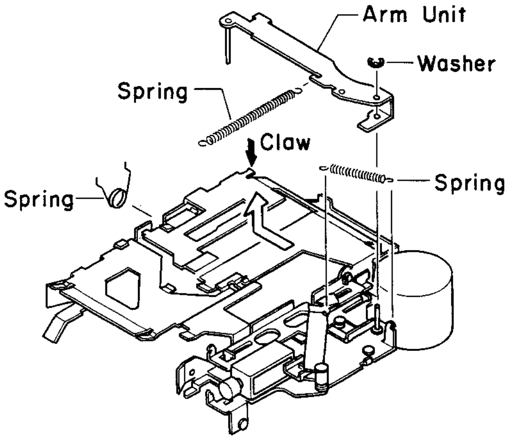

Arm Unit
Washer
Spring
Claw
Spring
Spring

Fig. 11

• Dismounting the Head Unit

1. Remove the two screws, and then remove the guide assy.
2. Remove the two screws, and then remove the head unit.

• Dismounting the Pinch Roller Unit

1. Remove the spring and then remove the pinch roller unit

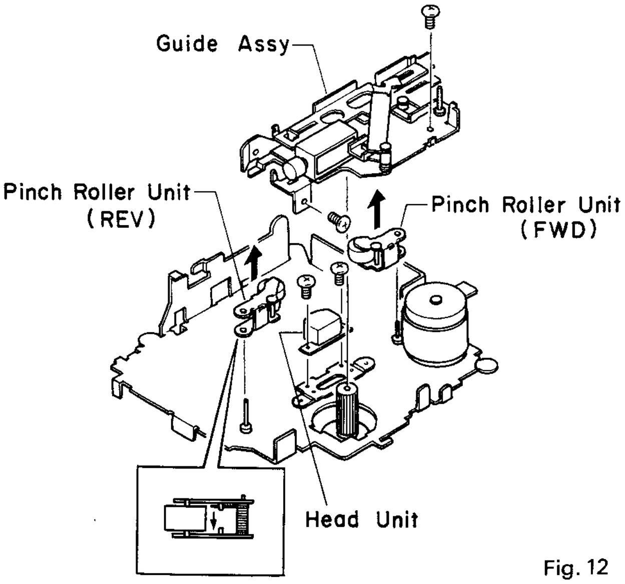

Guide Assy
Pinch Roller Unit (REV)
Pinch Roller Unit (FWD)
Head Unit

Fig. 12

• Dismounting the Gear (Reel Base)

1. Remove the two screws, and then remove the cover.
2. Remove the collar, and then remove the spring and gear.

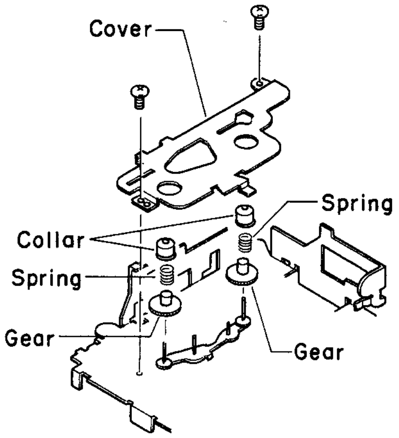

Cover
Spring
Collar
Spring
Gear
Gear

Fig. 13

• Dismounting the Flywheels

1. Remove the two screws, and then remove the cover.
2. Take off E washer. Retain washer properly to ensure it doesn't get lost.
3. Remove the flywheels. Do not mistake the N and R flywheels.

• Dismounting the Motor Unit

1. Remove the two screw, and then remove motor unit.

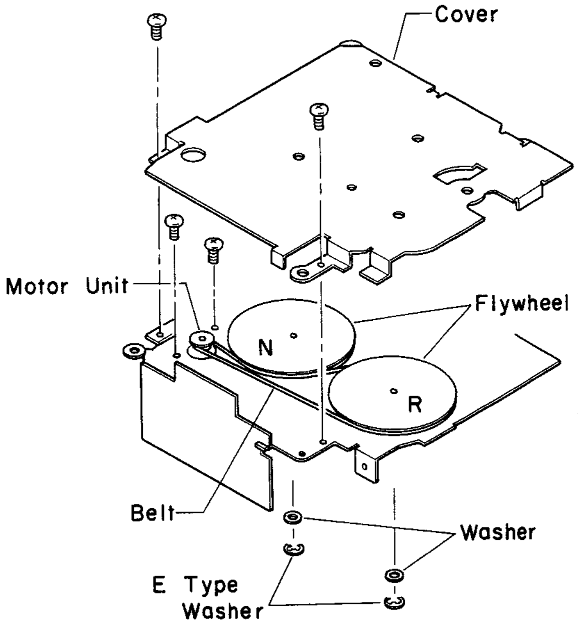

Cover
Motor Unit
Flywheel
N
R
Belt
Washer
E Type Washer

Fig. 14

8. MECHANISM DESCRIPTION

8.1 PARTS LOCATION

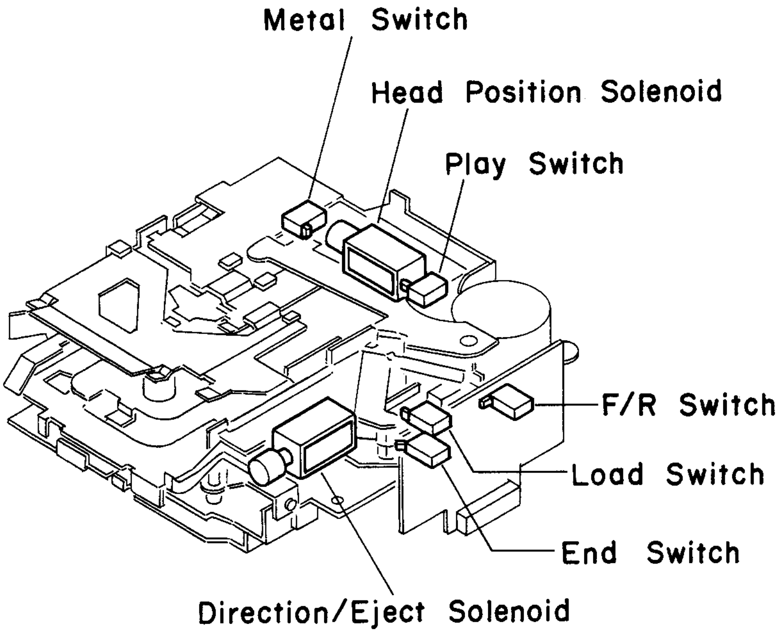

Metal Switch
Head Position Solenoid
Play Switch
F/R Switch
Load Switch
End Switch
Direction/Eject Solenoid

Fig. 15

8.2 DRIVING MECHANISM

- **ATSC (EJECT) Mode**

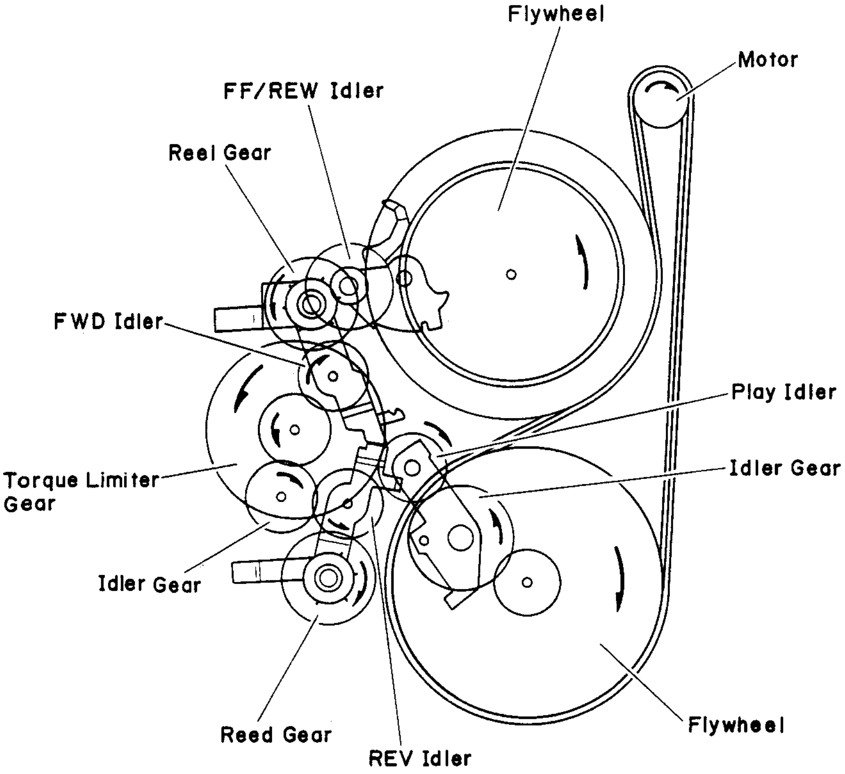

Flywheel
Motor
FF/REW Idler
Reel Gear
FWD Idler
Play Idler
Idler Gear
Torque Limiter Gear
Idler Gear
Reed Gear
REV Idler
Flywheel

Fig. 16

- **FWD PLAY Mode**

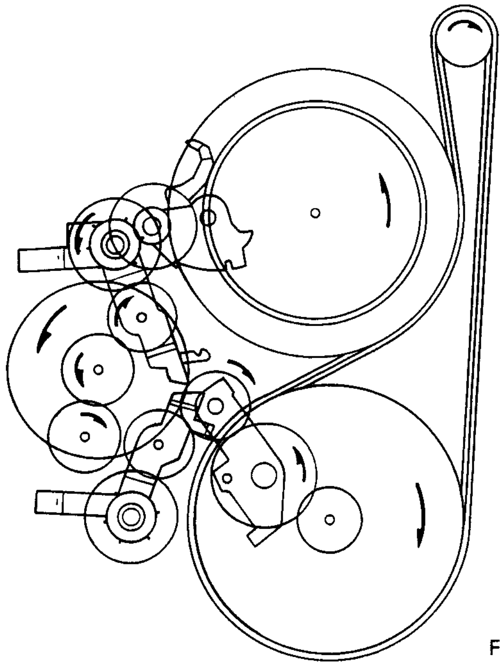


Fig. 17

- **REV PLAY Mode**

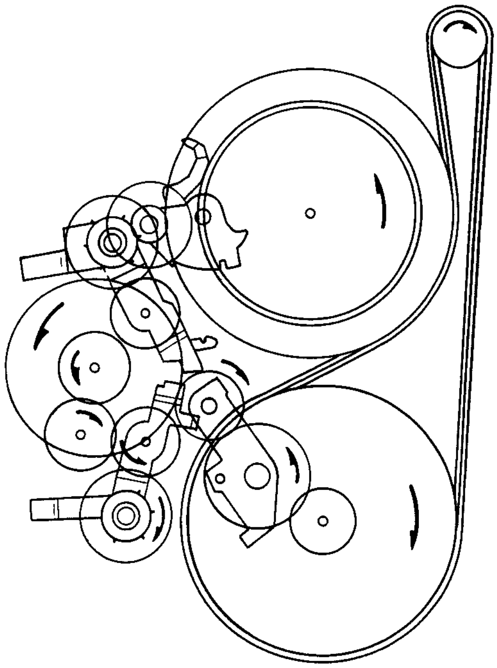


Fig. 18

- **FF Mode**

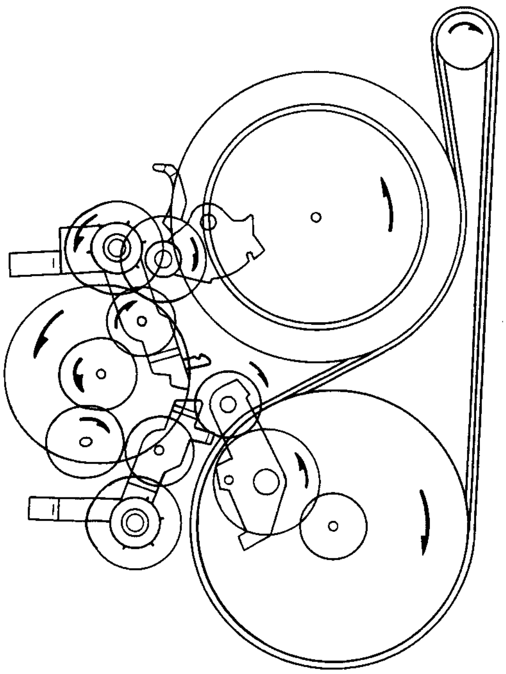


Fig. 19

- **REW Mode**

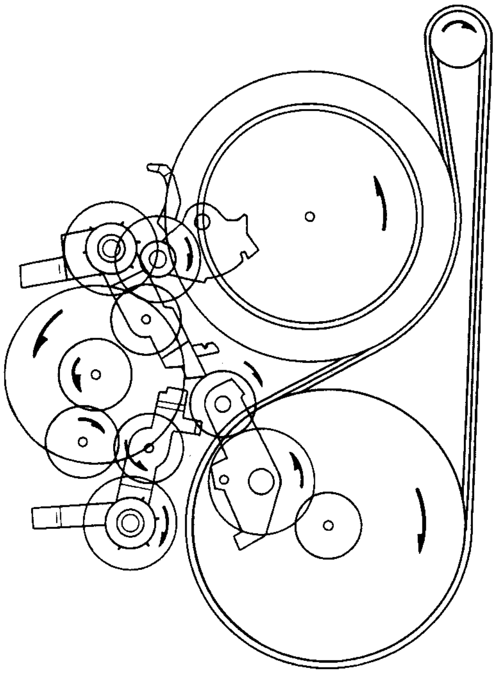


Fig. 20

9. CASSETTE MECHANISM ADJUSTMENT

9.1 AZIMUTH ADJUSTMENT

- **To Adjust**

1. Play "A" side of NCT-110 (10 kHz, −10 dB). Adjust each screw for maximum output in forward and reverse directions.
2. Play "B" side in forward and reverse directions to confirm adjustment.

9.2 TAPE SPEED ADJUSTMENT

- **To Adjust**

1. Reproduce NCT-111 (3 kHz, −10 dB). Adjust the semifixed resistor so that frequency counter shows 3,010 Hz (+80 Hz, −40 Hz).

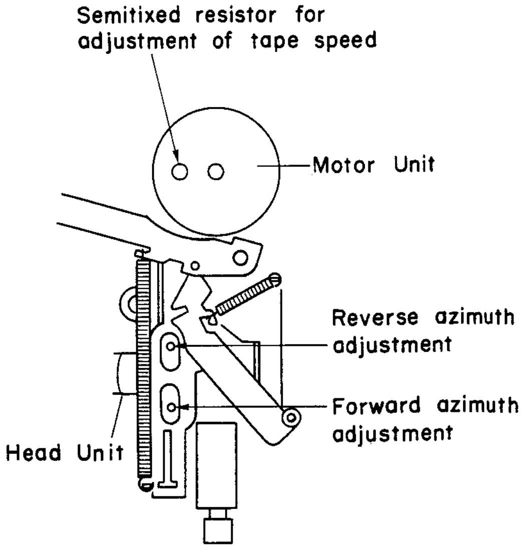

Semitixed resistor for adjustment of tape speed
Motor Unit
Reverse azimuth adjustment
Forward azimuth adjustment
Head Unit

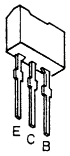
Fig. 21

9.3 CHECK POINTS OF CASSETTE MECHANISM

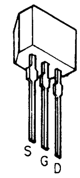
Confirm the following items when replacing parts of the cassette mechanism.	■ Tape speed deviation: 3,000 $^{+90}_{-30}$Hz (4.76cm/s $^{+3}_{-1}$ %) Using an NCT-111, measure the speed at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimun and maximum values. Measuring time shall be 5 – 6 seconds.	■ Wow and flutter: Less than 0.18% (WRMS) Using an NCT-111, measure the wow and flutter at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimum and maximum values. Measuring time shall be 5 – 6 seconds.
■ Fast forward and rewinding time: 95–115 seconds Using a C-60, set to fast forward and rewind, and measure the time with a stop watch.	■ Winding torque: 37–63g • cm Using a cassette type torque meter (100 g•cm), measure the minimum value while in the play mode. Measuring time shall be 2.5 – 6 seconds.	■ F.F. torque: 70–110g • cm Using a cassette type torque meter (120 g•cm), measure the value when the tape stops in the F.F. mode.
■ REW torque: 70–110g • cm Using a cassette type torque meter (120 g•cm), measure the value when the tape stops in the REW mode.	■ Back tension torque: 0.5–5 kg After setting in the REW mode without loading a cassette tape for 5 minutes, measure the back tension torque in the play mode, using a cassette type torque meter.	■ Cassette loading force: Less than 0.5 kg Push the center of the cassette and measure the force with a tension meter (3 kg).

• ICs and Transistors

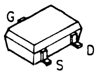
2SB1243
2SD1859



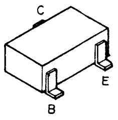
2SK330



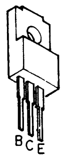
2SJ106



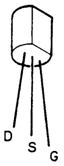
2SC2712
2SC3295
2SC4116



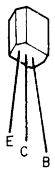
2SB945



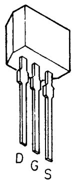
2SK435



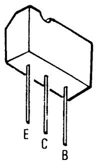
2SA1048
2SA1150
2SC2458



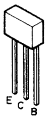
2SK184



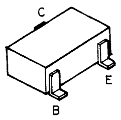
2SC1545F



UN4122
UN4211
UN4212

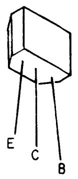


DTC124EK
DTC144EK
DTC343TK

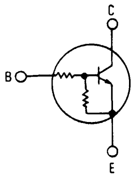


DTA124ES
DTC114ES
DTC124ES
DTC143ES

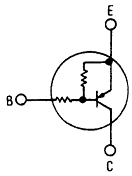
DTC143TS
DTC144TS
DTC314TS
DTC343TS



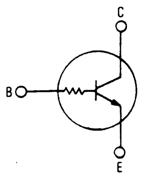
UN4211
UN4212
DTC114ES
DTC124ES
DTC143ES



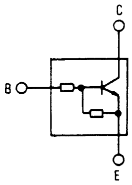
UN4122
DTA124ES



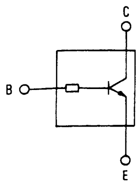
DTC143TS
DTC144TS
DTC314TS
DTC343TS



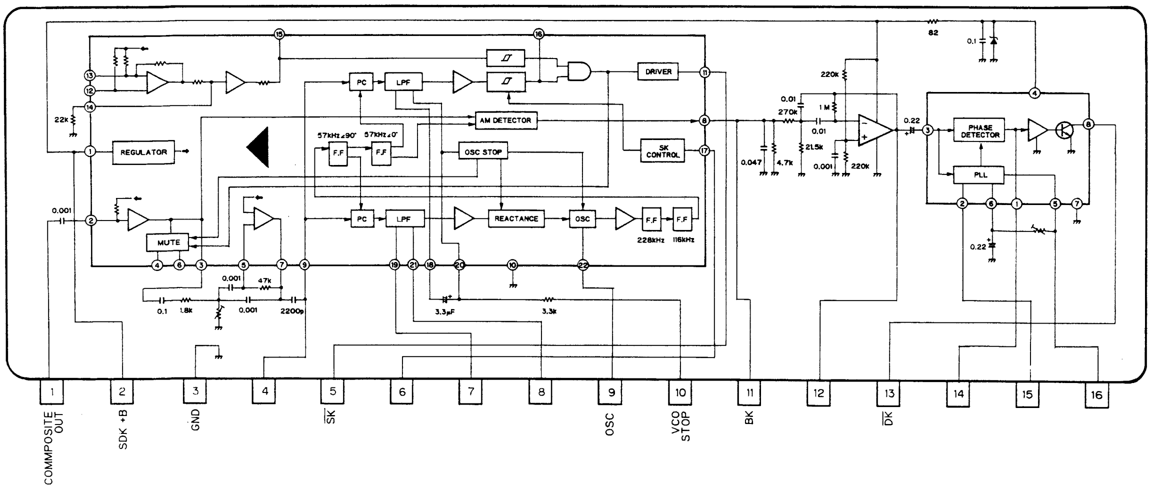
DTC124EK
DTC144EK



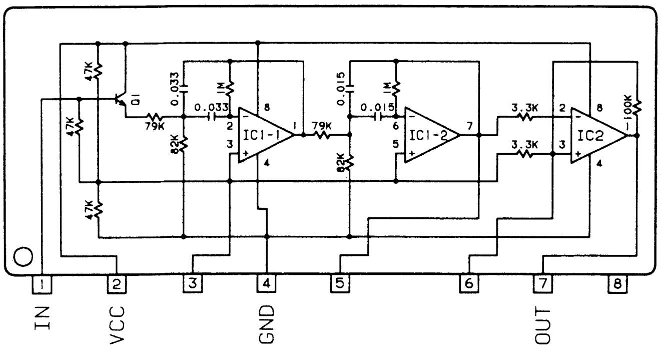
DTC343TK



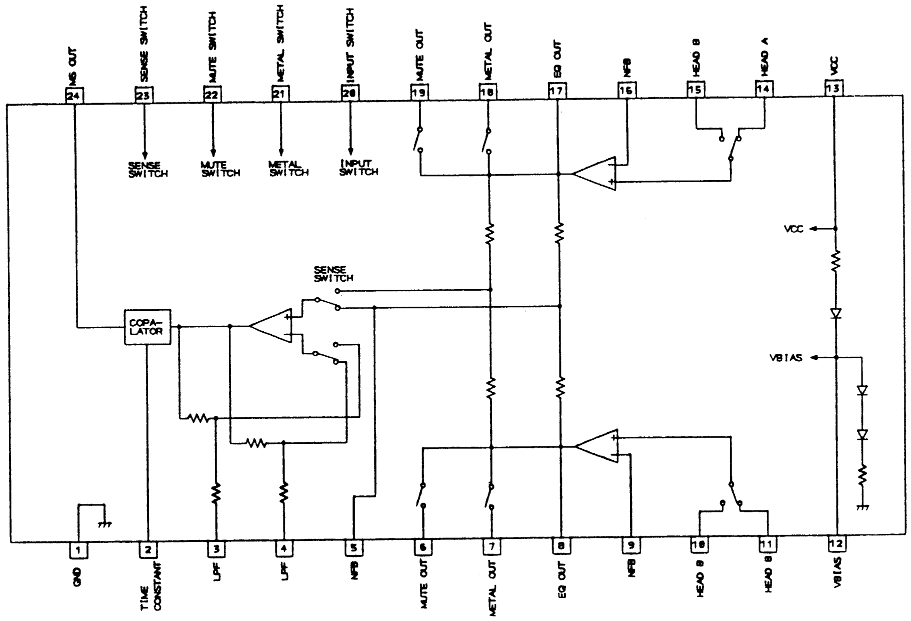
IC501 : KHA142


REGULATOR
MUTE
PC
LPF
AM DETECTOR
57kHz∠90°
57kHz∠0°
F.F
OSC STOP
REACTANCE
OSC
228kHz
116kHz
DRIVER
SK CONTROL
PHASE DETECTOR
PLL
22k
0.001
0.1
1.8k
47k
2200p
3.3μF
3.3k
82
220k
0.01
270k
1M
21.5k
0.047
4.7k
0.22
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
COMMPOSITE OUT
SDK +B
GND
SK
OSC
VCO STOP
BK
DK

IC502 : CWW1091

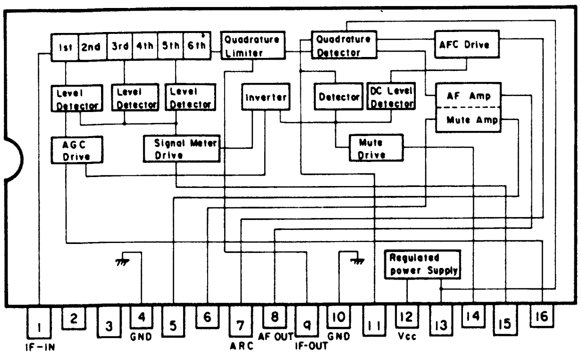

47K
Q1
79K
0.033
1M
82K
IC1-1
0.015
IC1-2
3.3K
IC2
100K
1
2
3
4
5
6
7
8
IN
VCC
GND
OUT

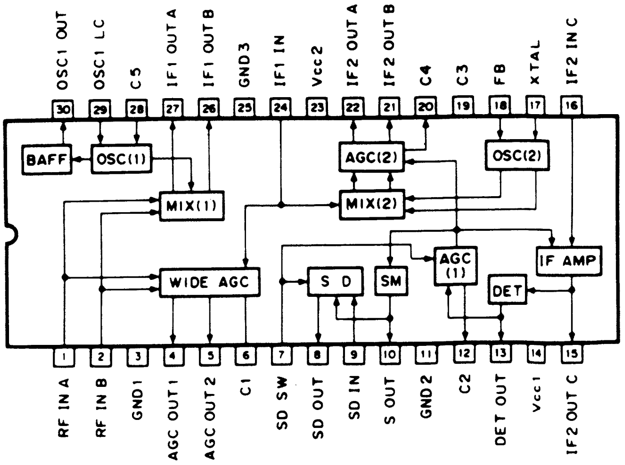
IC1 : BA3430FS


MS OUT
SENSE SWITCH
MUTE SWITCH
METAL SWITCH
INPUT SWITCH
MUTE OUT
METAL OUT
EQ OUT
NFB
HEAD B
HEAD A
VCC
24
23
22
21
20
19
18
17
16
15
14
13
SENSE SWITCH
MUTE SWITCH
METAL SWITCH
INPUT SWITCH
VCC
SENSE SWITCH
COPA-LATOR
VBIAS
1
2
3
4
5
6
7
8
9
10
11
12
GND
TIME CONSTANT
LPF
LPF
NFB
MUTE OUT
METAL OUT
EQ OUT
NFB
HEAD B
HEAD B
VBIAS

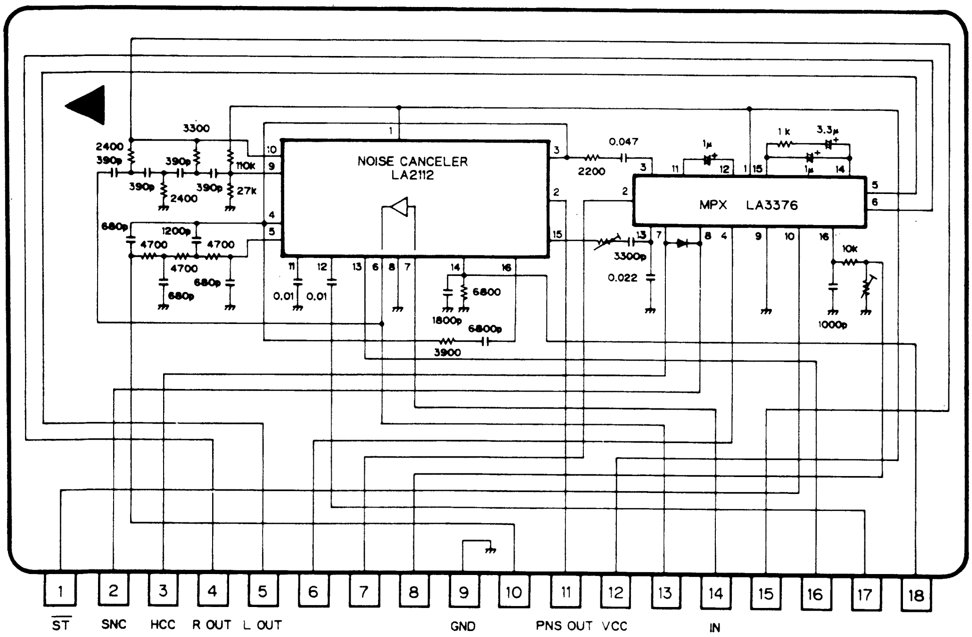
IC51 : LA1140B

IC201 : PA4010

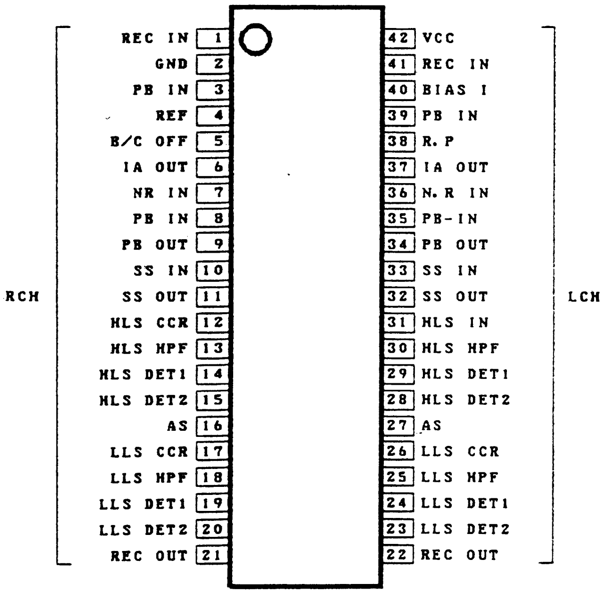

1st
2nd
3rd
4th
5th
6th
Quadrature Limiter
Quadrature Detector
AFC Drive
Level Detector
Level Detector
Level Detector
Inverter
Detector
DC Level Detector
AF Amp
Mute Amp
AGC Drive
Signal Meter Drive
Mute Drive
Regulated power Supply
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
IF-IN
GND
ARC
AF OUT
IF-OUT
GND
Vcc


OSC1 OUT
OSC1 LC
C5
IF1 OUT A
IF1 OUT B
GND3
IF1 IN
Vcc2
IF2 OUT A
IF2 OUT B
C4
C3
FB
XTAL
IF2 IN C
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
BAFF
OSC(1)
MIX(1)
AGC(2)
MIX(2)
OSC(2)
WIDE AGC
S D
SM
AGC (1)
IF AMP
DET
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
RF IN A
RF IN B
GND1
AGC OUT1
AGC OUT2
C1
SD SW
SD OUT
SD IN
S OUT
GND2
C2
DET OUT
Vcc1
IF2 OUT C

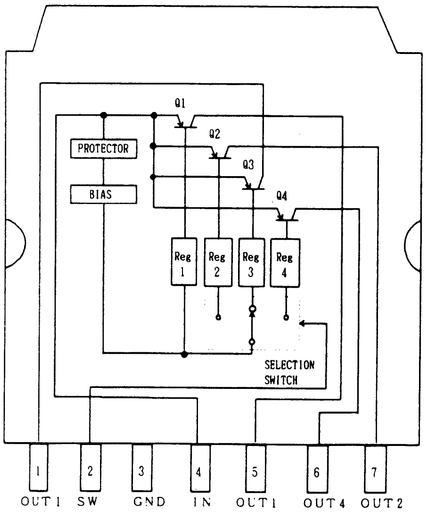
IC101 : KHA146


NOISE CANCELER
LA2112
MPX LA3376
3300
2400
390p
390p
390p
2400
390p
110k
27k
680p
1200p
4700
4700
4700
680p
680p
680p
0.01
0.01
1800p
6800
6800p
3900
0.047
2200
1μ
1k
3.3μ
1μ
3300p
0.022
10k
1000p
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
ST
SNC
HCC
R OUT
L OUT
GND
PNS OUT
VCC
IN

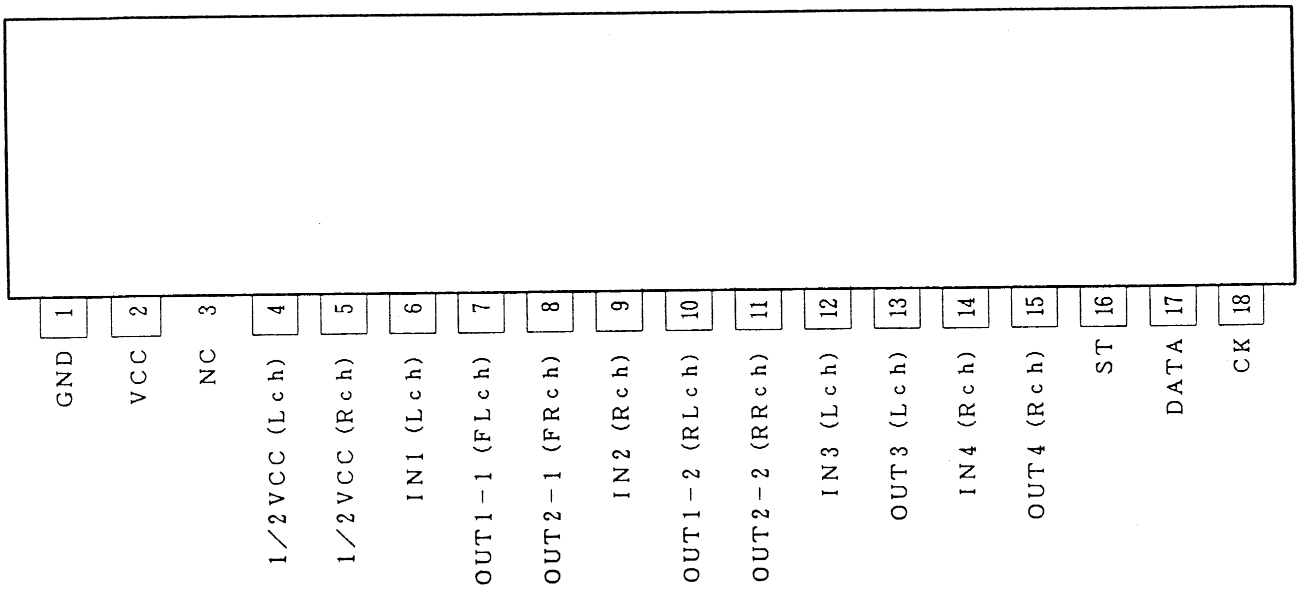
IC301 : HA12088ANT


REC IN 1
GND 2
PB IN 3
REF 4
B/C OFF 5
IA OUT 6
NR IN 7
PB IN 8
PB OUT 9
SS IN 10
SS OUT 11
HLS CCR 12
HLS HPF 13
HLS DET1 14
HLS DET2 15
AS 16
LLS CCR 17
LLS HPF 18
LLS DET1 19
LLS DET2 20
REC OUT 21
42 VCC
41 REC IN
40 BIAS I
39 PB IN
38 R.P
37 IA OUT
36 N.R IN
35 PB-IN
34 PB OUT
33 SS IN
32 SS OUT
31 HLS IN
30 HLS HPF
29 HLS DET1
28 HLS DET2
27 AS
26 LLS CCR
25 LLS HPF
24 LLS DET1
23 LLS DET2
22 REC OUT
RCH
LCH

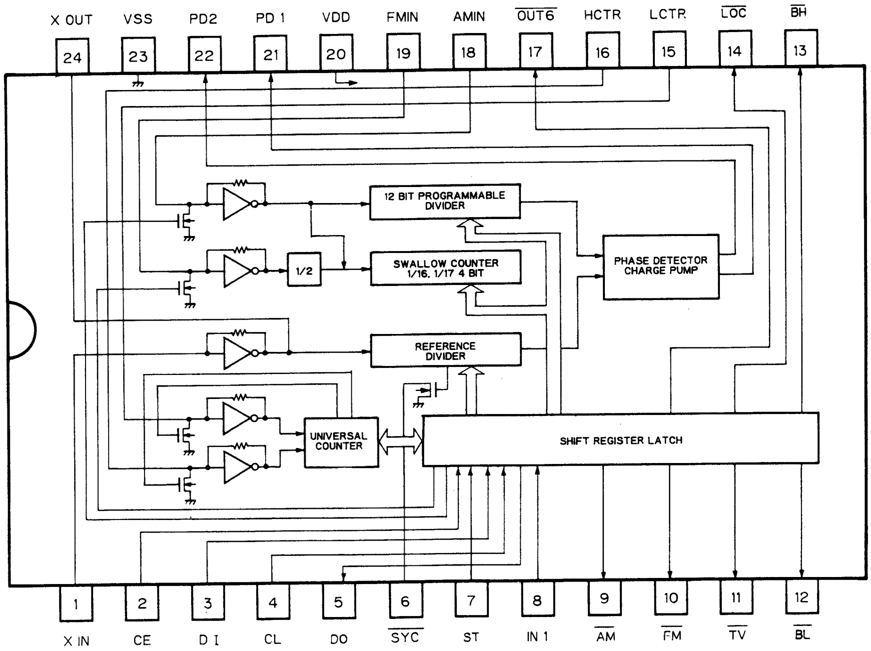
IC703 : TA8214K


Q1
Q2
Q3
Q4
PROTECTOR
BIAS
Reg 1
Reg 2
Reg 3
Reg 4
SELECTION SWITCH
1
2
3
4
5
6
7
OUT1
SW
GND
IN
OUT1
OUT4
OUT2

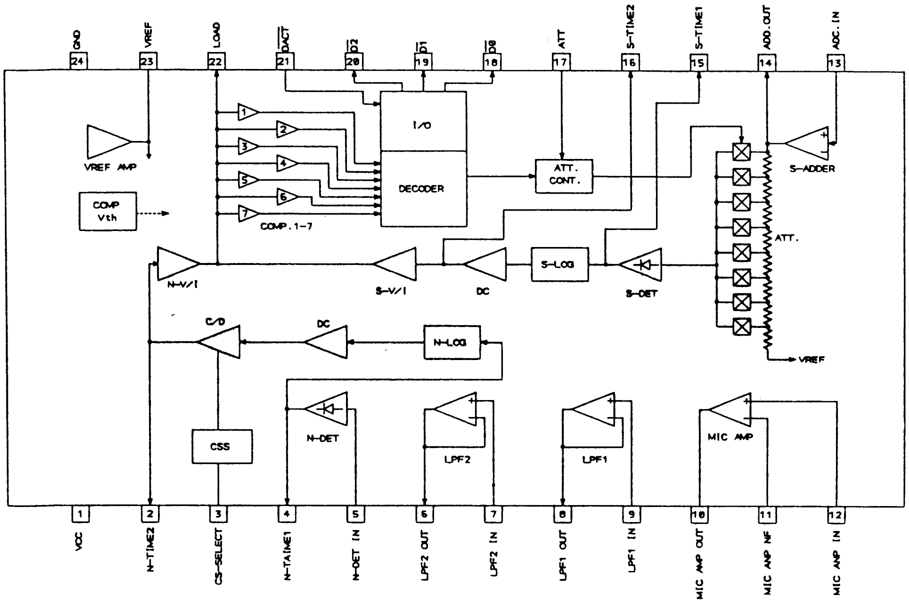
IC451 : KHA159A


1 GND
2 VCC
3 NC
4 1/2VCC (Lch)
5 1/2VCC (Rch)
6 IN1 (Lch)
7 OUT1-1 (FLch)
8 OUT2-1 (FRch)
9 IN2 (Rch)
10 OUT1-2 (RLch)
11 OUT2-2 (RRch)
12 IN3 (Lch)
13 OUT3 (Lch)
14 IN4 (Rch)
15 OUT4 (Rch)
16 ST
17 DATA
18 CK

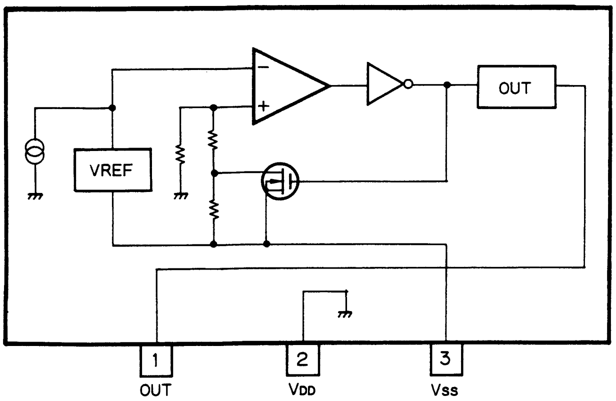
IC503 : LC7218


X OUT 24
VSS 23
PD2 22
PD 1 21
VDD 20
FMIN 19
AMIN 18
OUT6 17
HCTR 16
LCTR 15
LOC 14
BH 13
12 BIT PROGRAMMABLE DIVIDER
1/2
SWALLOW COUNTER 1/16, 1/17 4 BIT
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
1 X IN
2 CE
3 D I
4 CL
5 DO
6 SYC
7 ST
8 IN 1
9 AM
10 FM
11 TV
12 BL

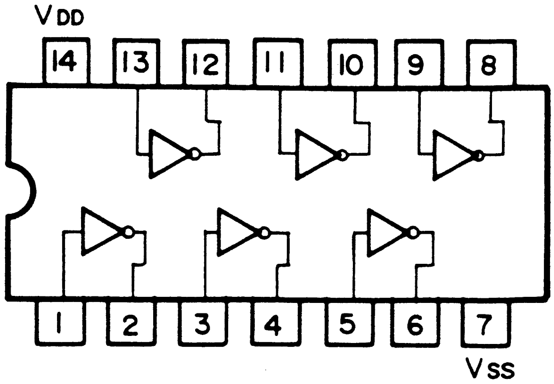
IC551 : PM2002


GND
VREF
LOAD
DACT
D2
D1
D0
ATT
S-TIME2
S-TIME1
ADD.OUT
ADC.IN
24
23
22
21
20
19
18
17
16
15
14
13
VREF AMP
COMP Vth
1
2
3
4
5
6
7
COMP.1-7
I/O
DECODER
ATT. CONT.
S-ADDER
ATT.
VREF
N-V/I
S-V/I
DC
S-LOG
S-DET
C/D
DC
N-LOG
CSS
N-DET
LPF2
LPF1
MIC AMP
1
2
3
4
5
6
7
8
9
10
11
12
VCC
N-TIME2
CS-SELECT
N-TAINE1
N-DET IN
LPF2 OUT
LPF2 IN
LPF1 OUT
LPF1 IN
MIC AMP OUT
MIC AMP NF
MIC AMP IN

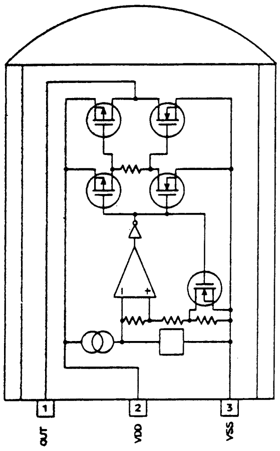
IC702 : S-8053ANO


VREF
OUT
1
2
3
OUT
VDD
Vss

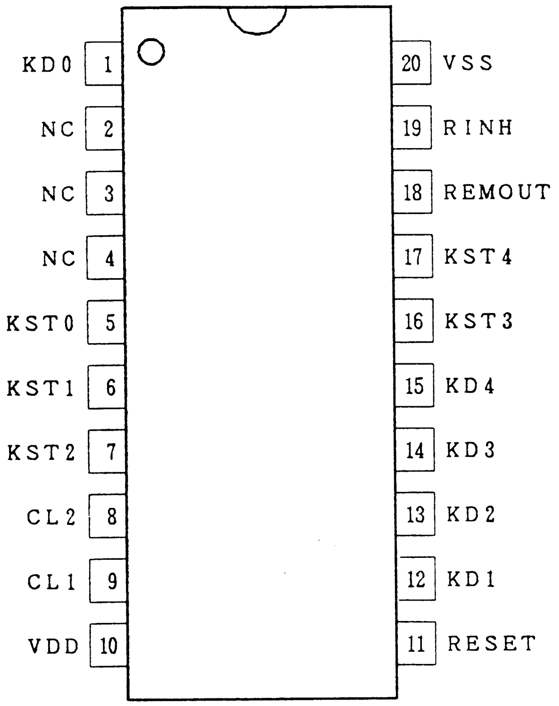
IC504 : TC4069UBP


VDD
14
13
12
11
10
9
8
1
2
3
4
5
6
7
Vss

IC901 : S-80740AH


1
2
3
OUT
VDD
VSS

IC904 : PD4189

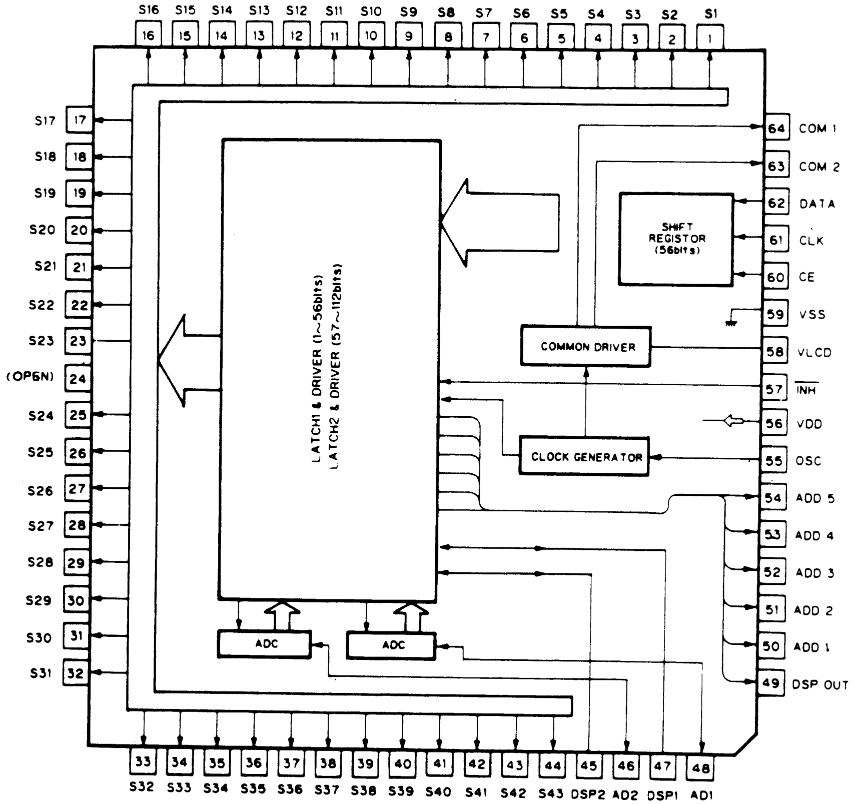

KD0
1
NC
2
NC
3
NC
4
KST0
5
KST1
6
KST2
7
CL2
8
CL1
9
VDD
10
20
VSS
19
RINH
18
REMOUT
17
KST4
16
KST3
15
KD4
14
KD3
13
KD2
12
KD1
11
RESET

- **Pin Functions (PD4189)**

Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	KDD	INPUT		Key return input
2—4	NC			
5—7	KST0—KST2	OUTPUT	NM	Key strobe output
8	CL2			System clock generator connector pin
9	CL1			System clock generator connector pin
10	VDD			
11	RESET	INPUT		Reset input
12—15	KD1—KD4	INPUT		Key return input
16, 17	KST3, KST4	OUTPUT	NM	Key strobe output
18	REMOUT	OUTPUT	NM	Remote controller data output
19	RINH	OUTPUT	NM	Remote controller OFF output when key data is outputed
20	VSS			GND

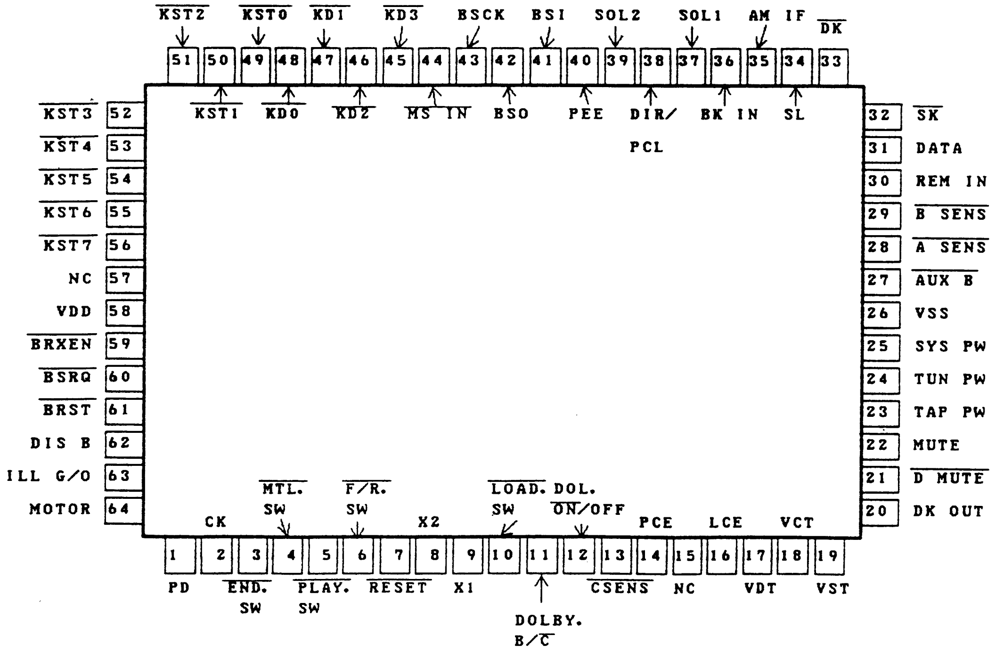
Output Format	Meaning
NM	Neutral resistivity N channel open drain

IC903 : LC7582P


S16 S15 S14 S13 S12 S11 S10 S9 S8 S7 S6 S5 S4 S3 S2 S1
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
S17 17
S18 18
S19 19
S20 20
S21 21
S22 22
S23 23
(OPEN) 24
S24 25
S25 26
S26 27
S27 28
S28 29
S29 30
S30 31
S31 32
LATCH1 & DRIVER (1~56bits)
LATCH2 & DRIVER (57~112bits)
SHIFT REGISTOR (56bits)
COMMON DRIVER
CLOCK GENERATOR
ADC
ADC
64 COM 1
63 COM 2
62 DATA
61 CLK
60 CE
59 VSS
58 VLCD
57 INH
56 VDD
55 OSC
54 ADD 5
53 ADD 4
52 ADD 3
51 ADD 2
50 ADD 1
49 DSP OUT
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
S32 S33 S34 S35 S36 S37 S38 S39 S40 S41 S42 S43 DSP2 AD2 DSP1 AD1

IC701 : *PD4188

*IC's marked by *are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.


KST2 KST0 KD1 KD3 BSCK BSI SOL2 SOL1 AM IF DK
51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
KST1 KD0 KD2 MS IN BSO PEE DIR/PCL BK IN SL
KST3 52
KST4 53
KST5 54
KST6 55
KST7 56
NC 57
VDD 58
BRXEN 59
BSRQ 60
BRST 61
DIS B 62
ILL G/O 63
MOTOR 64
32 SK
31 DATA
30 REM IN
29 B SENS
28 A SENS
27 AUX B
26 VSS
25 SYS PW
24 TUN PW
23 TAP PW
22 MUTE
21 D MUTE
20 DK OUT
CK MTL. SW F/R. SW X2 LOAD. SW DOL. ON/OFF PCE LCE VCT
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
PD END. SW PLAY. SW RESET X1 CSENS NC VDT VST
DOLBY. B/C

• Pin Functions (PD4188)

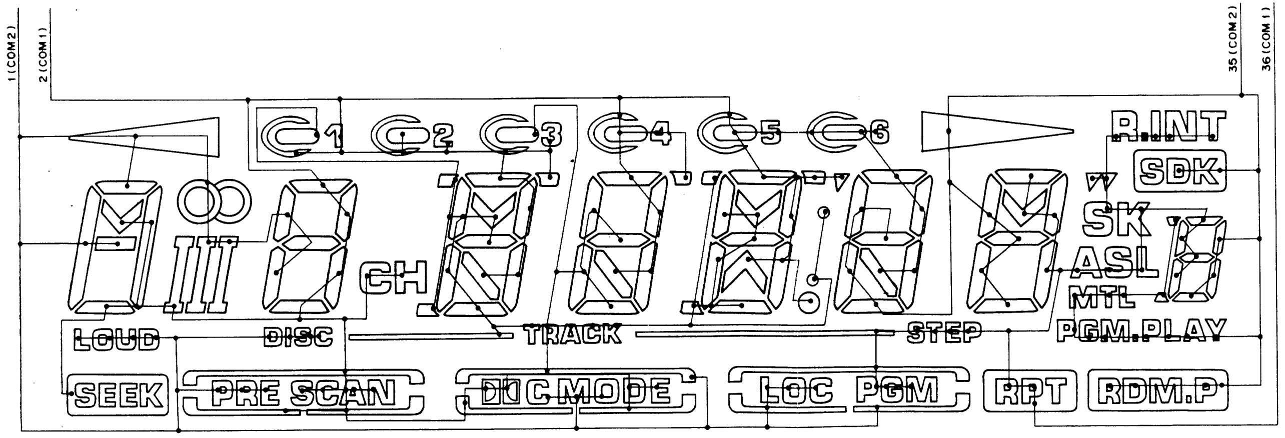
Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	PD	Output	C	LCD driver IC and PLL IC data line
2	CK	Output	C	LCD driver IC and PLL IC clock line
3	END. SW	Input		Deck END sensor input
4	MTL. SW	Input		Deck METAL(70μS)sensor input
5	PLAY. SW	Input		Deck head position(PLAY)sensor input
6	F/R. SW	Input		Deck FWD/REV sensor input
7	RESET	Input		Reset input
8	X2			Crystal oscillating element connection pin
9	X1			Crystal oscillating element connection pin
10	LOAD. SW	Input		Deck LOAD/EJECT sensor input
11	DOLBY. B/C	Output	C	Dolby NR B/C selector output
12	DOL. ON/OFF	Output	C	Dolby NR ON/OFF selector output
13	CSENSE	Input		Front panel OPEN/CLOSE sensor input
14	PCE	Output	C	Chip enable output for PLL IC (IC503:LC7218)
15	NC			Not used
16	LCE	Output	C	Chip enable output for LCD driver IC
17	VDT	Output	C	Data output for electronic volume IC(IC451:KHA159A)
18	VCK	Output	C	Clock output for electronic volume IC(IC451:KHA159A)
19	VST	Output	C	Strobe output for electronic volume IC(IC451:KHA159A)
20	DK OUT	Output	C	Tuner mute output
21	D MUTE	Output	C	Deck mute output
22	MUTE	Output	C	System mute output
23	TAP PW	Output	C	Not used
24	TUN PW	Output	C	Tuner power supply control
25	SYS PW	Output	C	System(power amp)power supply control
26	VSS			GND
27	AUXB	Input		AUX B sensor input
28	ASENSE	Input		ACC power supply sensor input
29	BSENS	Input		BACK UP power supply sensor input
30	REMIN	Input		Remote control pulse input
31	DATA	Input		Data input for PLL IC (IC503:LC7218)
32	SK	Input		SK signal input
33	DK	Input		DK signal input
34	SL	Input		Input level sensor input
35	AM IF	Input		AM IF count input
36	BK IN	Input		BK signal input
37	SOL1	Output	C	Output for deck solenoid 1 (head position)
38	DIR/PCL	Output	C	Deck FWD/REV head selector output
39	SOL2	Output	C	Output for deck solenoid 2 (DIR selector and EJECT)
40	PEE	Output	C	Beep tone output

Pin No.	Pin Name	I/O	Output Format	Function and Operation
41	BS I	Input		Bus serial data input
42	BS O	Output	C	Bus serial data output
43	BSCK	Input/ Output	C	Bus serial clock input/output
44	MS IN	Input		Music signal input
45～48	KD3～KD0	Input		Key return input
49	KST0	Output	NM	Model sense strobe output
50	KST1	Output	NM	Model sense strobe output
51	KST2	Output	NM	ASL strobe output
52	KST3	Output	NM	Key strobe output
53	KST4	Output	NM	ASL mode selector output 1
54	KST5	Output	NM	ASL mode selector output 2
55	KST6	Output	NM	Detaching and replaceing front panel control
56	KST7	Output	NM	Strobe output for front panel open solenoid control
57	NC			
58	VDD			
59	BRXEN	Input/ Output	C	Bus reception enable line
60	BSRQ	Input		Data communications serial poll request
61	BRST	Output	C	Bus reset
62	DIS B	Output	C	AUX control output
63	ILL G/O	Output	C	Illumination green/amber selector output
64	MOTOR	Output	C	Deck main motor control output

Output Format	Meaning
C	CMOS Output
NM	Neutral resistivity N channel open drain

• LCD (CAW1042)

COMMON



A159A)
HA159A)
KHA159A)

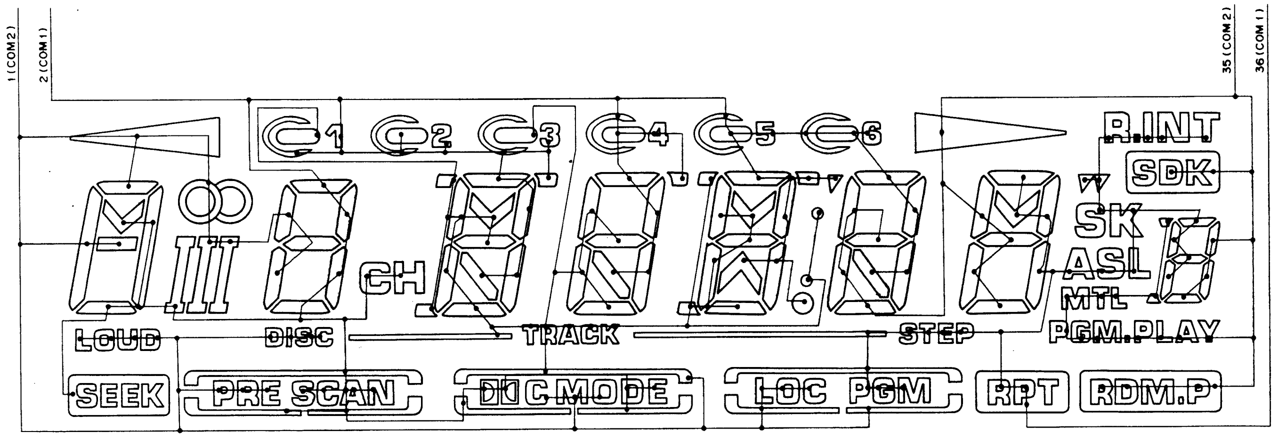
EJECT)

Pin No.	Pin Name	I/O	Output Format	Function and Operation
41	BS I	Input		Bus serial data input
42	BS O	Output	C	Bus serial data output
43	BSCK	Input/ Output	C	Bus serial clock input/output
44	MS IN	Input		Music signal input
45～48	KD3～KD0	Input		Key return input
49	KST0	Output	NM	Model sense strobe output
50	KST1	Output	NM	Model sense strobe output
51	KST2	Output	NM	ASL strobe output
52	KST3	Output	NM	Key strobe output
53	KST4	Output	NM	ASL mode selector output 1
54	KST5	Output	NM	ASL mode selector output 2
55	KST6	Output	NM	Detaching and replaceing front panel control
56	KST7	Output	NM	Strobe output for front panel open solenoid control
57	NC			
58	VDD			
59	BRXEN	Input/ Output	C	Bus reception enable line
60	BSRQ	Input		Data communications serial poll request
61	BRST	Output	C	Bus reset
62	DIS B	Output	C	AUX control output
63	ILL G/O	Output	C	Illumination green/amber selector output
64	MOTOR	Output	C	Deck main motor control output

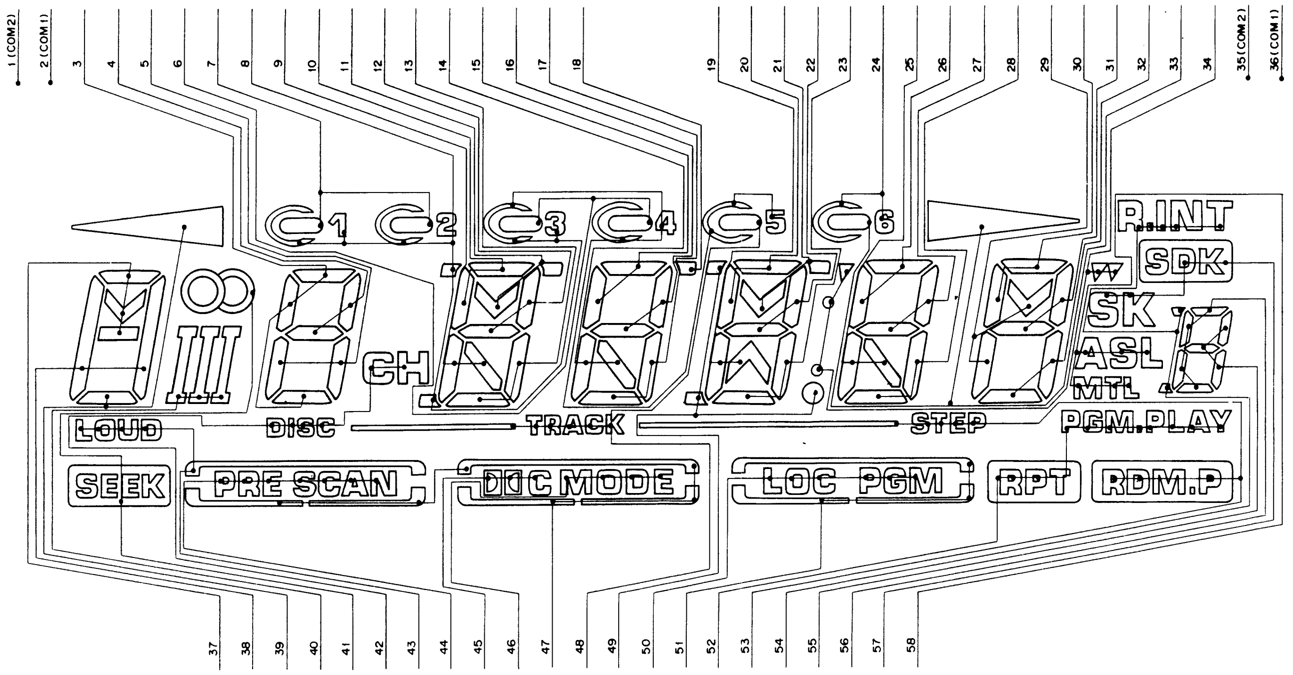
Output Format	Meaning
C	CMOS Output
NM	Neutral resistivity N channel open drain

• LCD (CAW1042)

COMMON

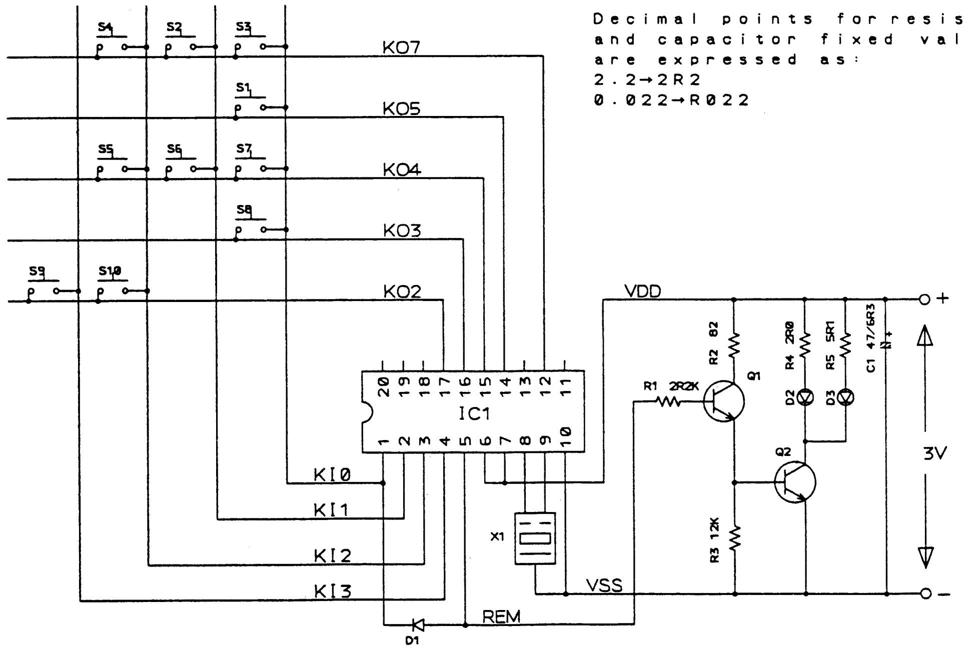

1(COM2)
2(COM1)
35(COM2)
36(COM1)
R.INT
SDK
SK
ASL
MTL
CH
LOUD
DISC
TRACK
STEP
PGM.PLAY
SEEK
PRE SCAN
D/C MODE
LOC PGM
RPT
RDM.P

SEGMENT


1(COM2)
2(COM1)
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35(COM2)
36(COM1)
R.INT
SDK
SK
ASL
MTL
CH
LOUD
DISC
TRACK
STEP
PGM.PLAY
SEEK
PRE SCAN
D/C MODE
LOC PGM
RPT
RDM.P
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58

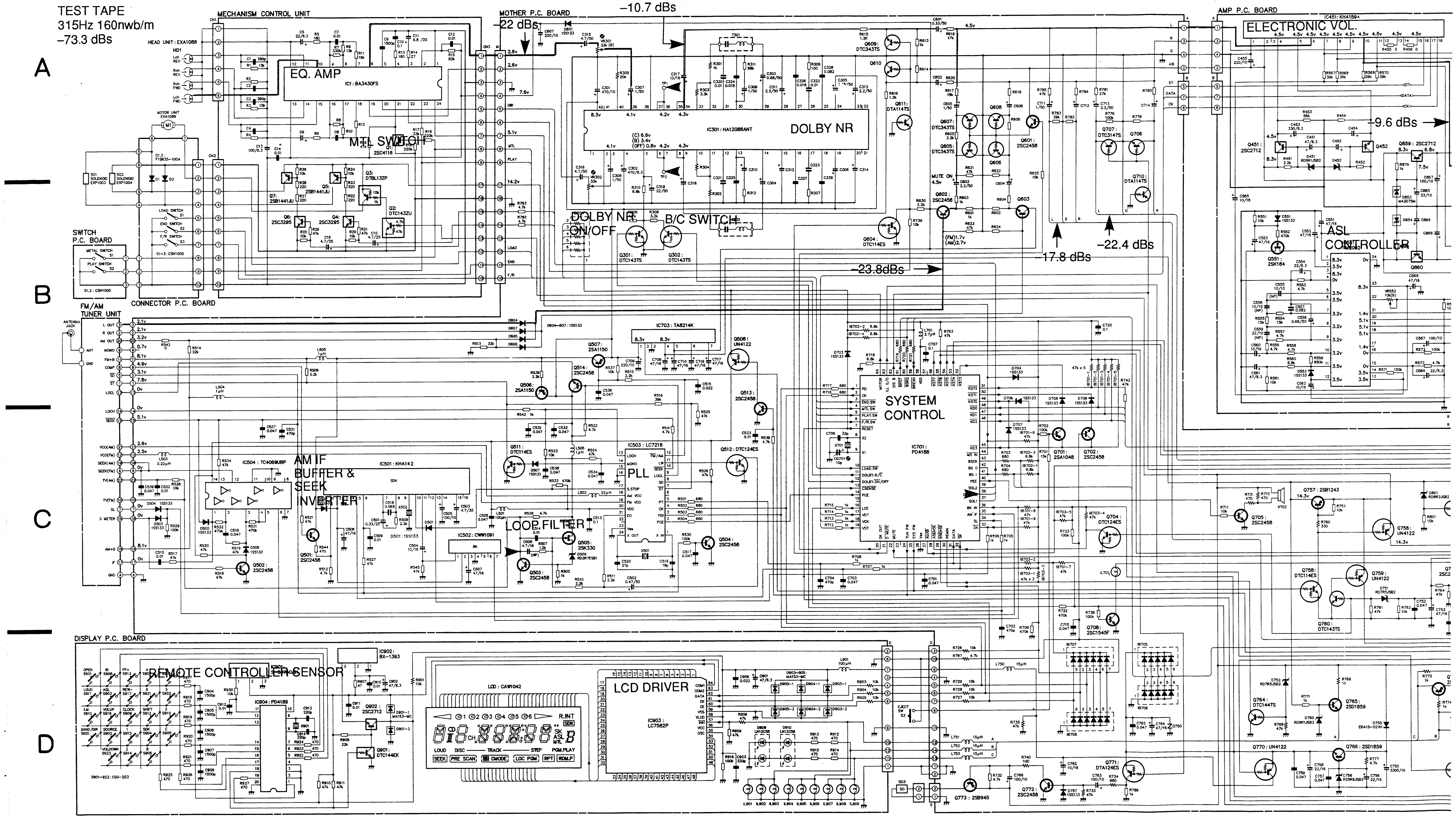
• Remote Control Assy

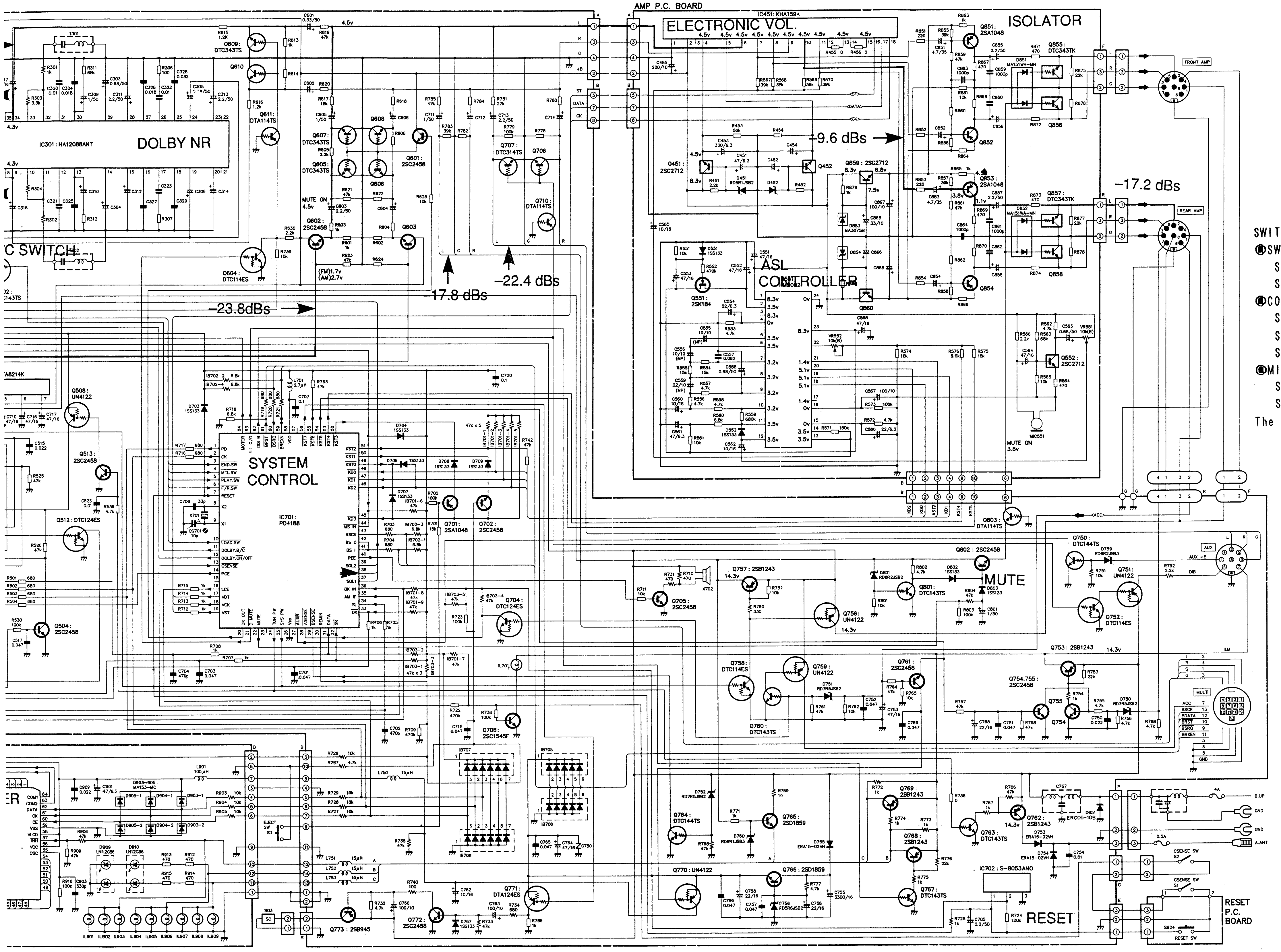
S1:BSM
S2:TAPE
S3:TUNER
S4:CD
S5:BAND
S6:− SOURCE
S7:+ SOURCE
S8:ATT
S9:− VOLUME
S10:+ VOLUME


S4
S2
S3
S1
S5
S6
S7
S8
S9
S10
KO7
KO5
KO4
KO3
KO2
KI0
KI1
KI2
KI3
IC1
X1
D1
REM
VSS
VDD
R1 2R2K
R2 82
R3 12K
R4 2R0
R5 5R1
C1 47/6R3
Q1
Q2
D2
D3
3V
+
−

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

10. SCHEMATIC CIRCUIT DIAGRAM (KEX-M800SDK/WG)


TEST TAPE
315Hz 160nwb/m
–73.3 dBs
A
B
C
D
MECHANISM CONTROL UNIT
HEAD UNIT : EXA1088
EQ. AMP
IC1 : BA3430FS
MTL SWITCH
SWITCH P.C. BOARD
CONNECTOR P.C. BOARD
MOTHER P.C. BOARD
–22 dBs
–10.7 dBs
DOLBY NR
IC301 : HA12088ANT
DOLBY NR ON/OFF
B/C SWITCH
–23.8dBs
–17.8 dBs
–22.4 dBs
AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159A
–9.6 dBs
ASL CONTROLLER
FM/AM TUNER UNIT
IC703 : TA8214K
SYSTEM CONTROL
IC701 : PD4188
AM IF BUFFER & SEEK INVERTER
IC504 : TC4069UBP
IC501 : KHA142
IC503 : LC7218
PLL
LOOP FILTER
IC502 : CWW1091
DISPLAY P.C. BOARD
REMOTE CONTROLLER SENSOR
IC901
IC902 : BX-1393
IC904 : PD4189
LCD : CAW1042
LCD DRIVER
IC903 : LC7582P
S901–923 : CSG-253


AMP P.C. BOARD
ELECTRONIC VOL.
IC451: KHA150A
ISOLATOR
DOLBY NR
IC301: HA12088ANT
SYSTEM CONTROL
IC701: PD4188
ASL CONTROLLER
MUTE
RESET
IC702: S-8053ANO
-9.6 dBs
-17.2 dBs
-17.8 dBs
-22.4 dBs
-23.8dBs
FRONT AMP
REAR AMP
AUX
MULTI
RESET P.C. BOARD
RESET SW
CSENSE SW
EJECT SW
B.UP
GND
A.ANT
MUTE ON
MIC551
Q451: 2SC2712
Q551: 2SK184
Q552: 2SC2712
Q601: 2SC2458
Q602: 2SC2458
Q604: DTC114ES
Q701: 2SA1048
Q702: 2SC2458
Q704: DTC124ES
Q705: 2SC2458
Q708: 2SC1545F
Q756: UN4122
Q757: 2SB1243
Q758: DTC114ES
Q759: UN4122
Q760: DTC143TS
Q761: 2SC2458
Q765: 2SD1859
Q766: 2SD1859
Q770: UN4122
Q771: DTA124ES
Q772: 2SC2458
Q773: 2SB945
Q801: DTC143TS
Q802: 2SC2458
Q803: DTA114TS
Q851: 2SA1048
Q853: 2SA1048
Q855: DTC343TK
Q857: DTC343TK
A
B
C
D

NOTE :

—▭— Indicates a chip resistor.

—▮— Indicates a chip capacitor.

Indicates a chip transistor.

—▶|— Indicates a chip diode.

SWITCHES:

●SWITCH P.C. BOARD
- S1: METAL SWITCH··················ON—OFF
- S2: PLAY SWITCH····················ON—OFF

●CONNECTOR P.C. BOARD
- S1: LOAD SWITCH····················ON—OFF
- S2: END SWITCH······················ON—OFF
- S3: F/R SWITCH······················ON—OFF

●MISCELLANEOUS
- S1: CSENSE SWITCH················ON—OFF
- S2: CSENSE SWITCH················ON—OFF

The underlined indicates the switch position.

Audio Tuner Unit

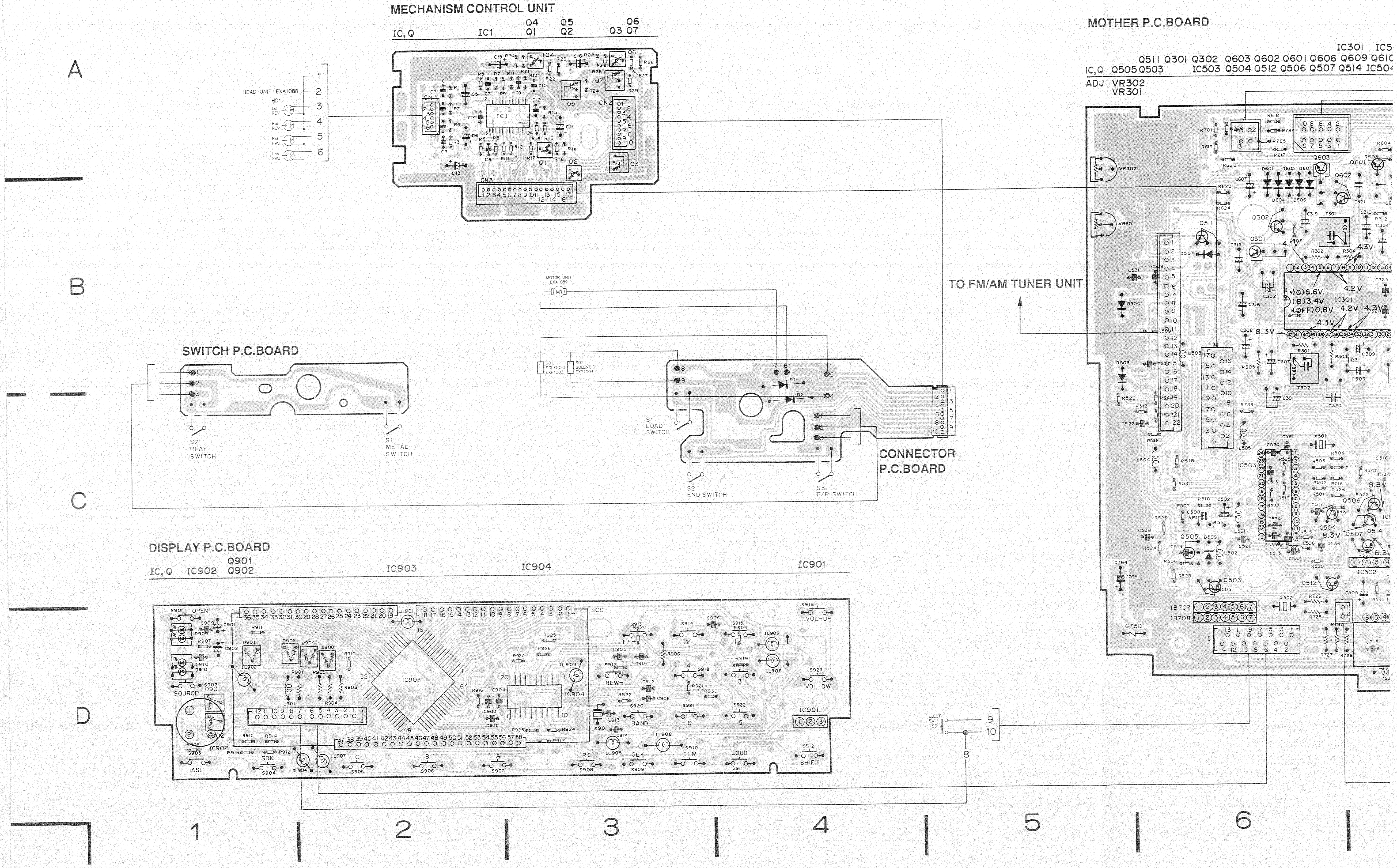
Consists of
- Amp P.C. Board
- Mother P.C. Board

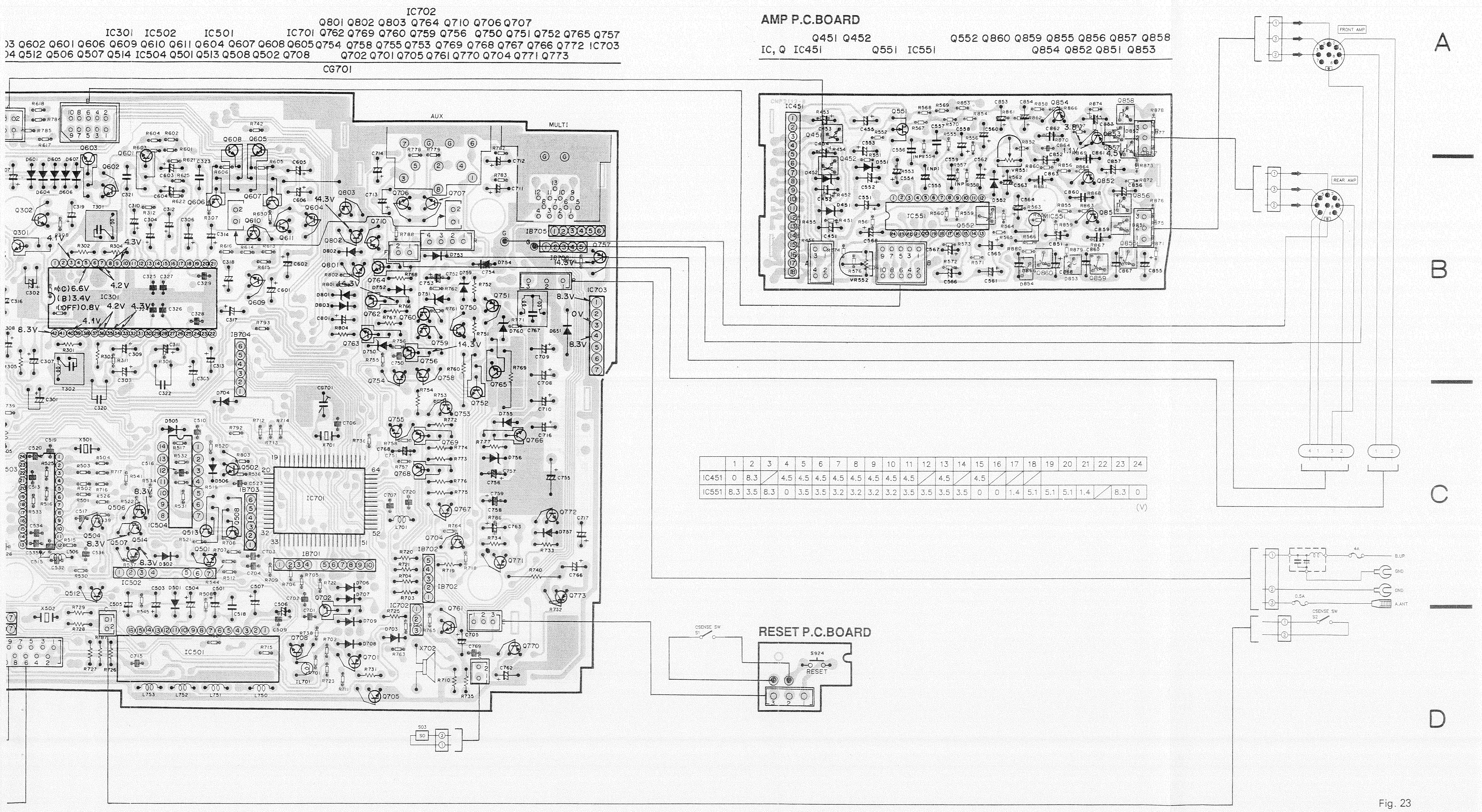
Display Unit

Consists of
- Display P.C. Board
- Reset P.C. Board

Fig. 22

11. CONNECTION DIAGRAM (KEX-M800SDK/WG)


1
2
3
4
5
6
A
B
C
D
MECHANISM CONTROL UNIT
IC, Q
IC1
Q4 Q1
Q5 Q2
Q6 Q3 Q7
HEAD UNIT : EXA1088
HD1
CN1
CN2
CN3
IC1
MOTHER P.C.BOARD
IC, Q
Q505 Q503
Q511 Q301
Q302 IC503
Q603 Q504
Q602 Q512
Q601 Q506
Q606 Q507
Q609 Q514
IC301 IC504
ADJ
VR302
VR301
TO FM/AM TUNER UNIT
IC301
(C)6.6V
(B)3.4V
(OFF)0.8V
4.2V
4.3V
4.1V
8.3V
IC503
IC502
IB707
IB708
MOTOR UNIT EXA1089
M1
S01 SOLENOID EXP1003
S02 SOLENOID EXP1004
D1
D2
S1 LOAD SWITCH
S2 END SWITCH
S3 F/R SWITCH
CONNECTOR P.C.BOARD
SWITCH P.C.BOARD
S2 PLAY SWITCH
S1 METAL SWITCH
DISPLAY P.C.BOARD
IC, Q
IC902
Q901 Q902
IC903
IC904
IC901
OPEN
SOURCE
ASL
SDK
C
B
A
R1
CLK
ILM
LOUD
SHIFT
FF
REW
BAND
VOL-UP
VOL-DW
LCD
EJECT SW S3
8
9
10

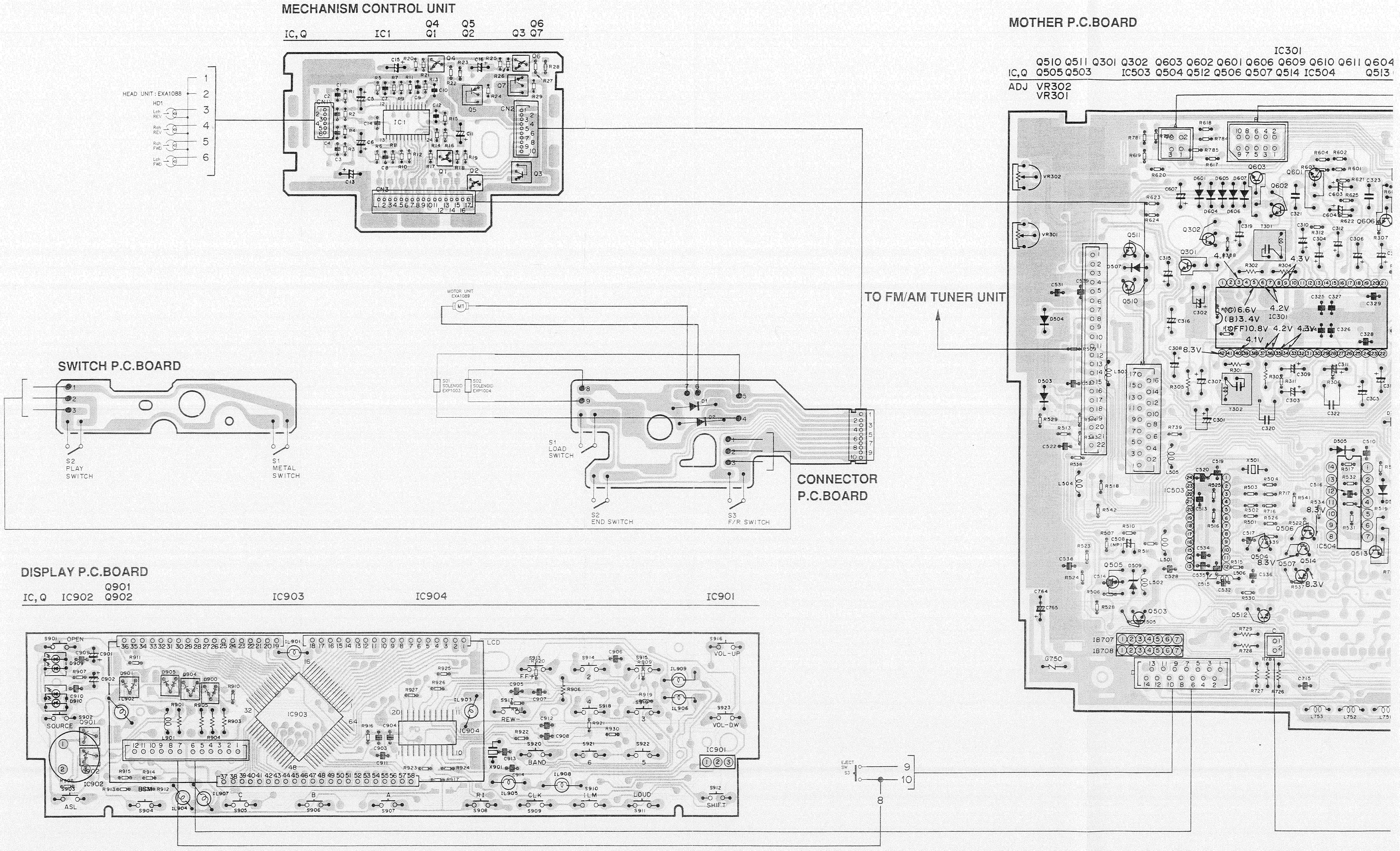

IC702
Q801 Q802 Q803 Q764 Q710 Q706 Q707
IC301 IC502 IC501 IC701 Q762 Q769 Q760 Q759 Q756 Q750 Q751 Q752 Q765 Q757
)3 Q602 Q601 Q606 Q609 Q610 Q611 Q604 Q607 Q608 Q605 Q754 Q758 Q755 Q753 Q769 Q768 Q767 Q766 Q772 IC703
)4 Q512 Q506 Q507 Q514 IC504 Q501 Q513 Q508 Q502 Q708 Q702 Q701 Q705 Q761 Q770 Q704 Q771 Q773
CG701
AUX
MULTI
AMP P.C.BOARD
Q451 Q452 Q552 Q860 Q859 Q855 Q856 Q857 Q858
IC, Q IC451 Q551 IC551 Q854 Q852 Q851 Q853
FRONT AMP
REAR AMP
A
B
C
D
IC301
IC701
IC501
IC502
IC703
IB701
IB702
IB703
IB704
IB705
14.3V
8.3V
4.3V
4.2V
4.1V
(O)6.6V
(B)3.4V
(OFF)0.8V
0V
3.8V
4.5V
X501
X502
X701
X702
T301
T302
L750
L751
L752
L753
4A
0.5A
B.UP
GND
A.ANT
CSENSE SW
S1
S2
S03
RESET P.C.BOARD
S924
RESET

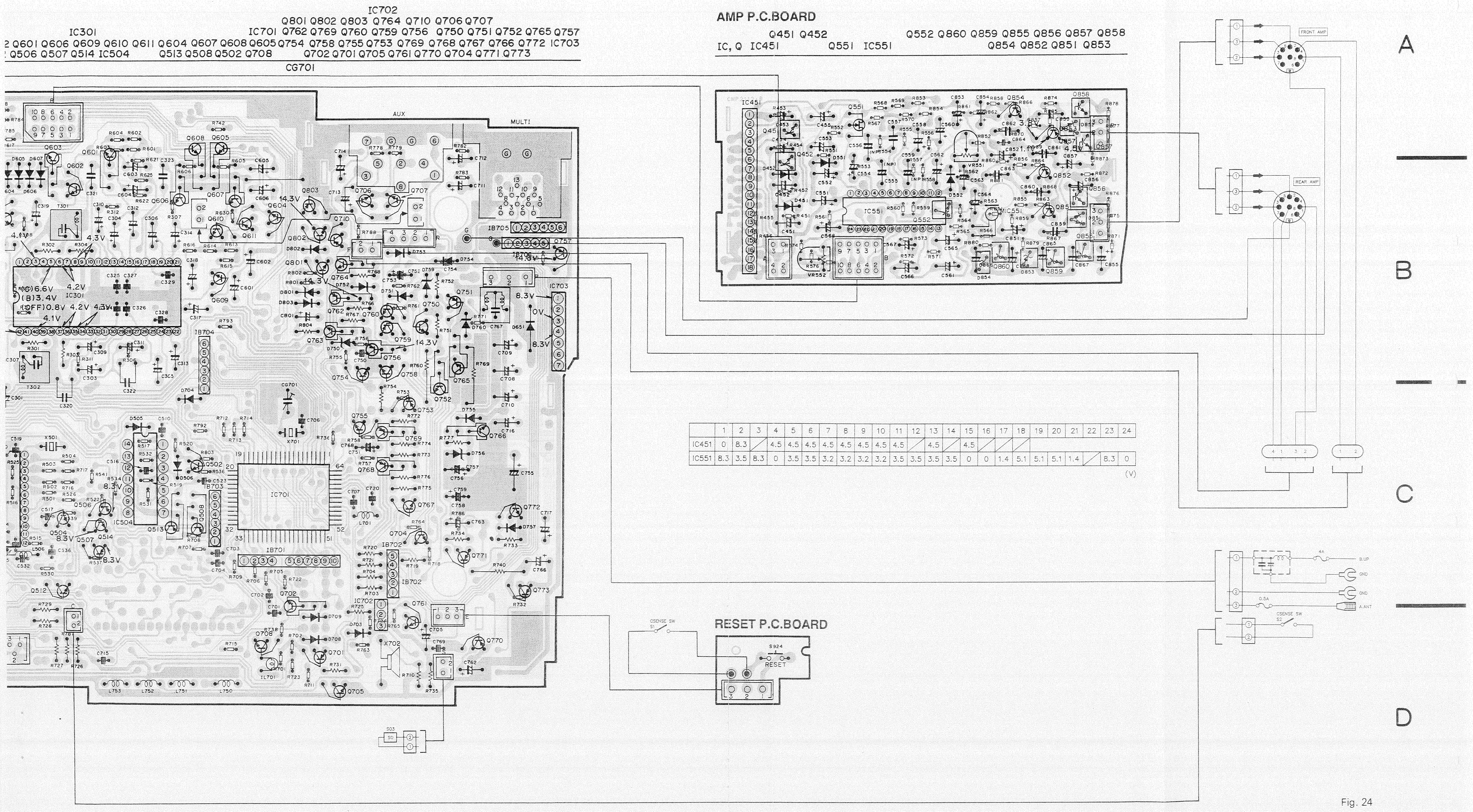
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC451	0	8.3	/	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	/	4.5	/	4.5	/	/	/						
IC551	8.3	3.5	8.3	0	3.5	3.5	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	0	0	1.4	5.1	5.1	5.1	1.4	/	8.3	0

(V)

Fig. 23

12. CONNECTION DIAGRAM (KEX-M800/EW)


MECHANISM CONTROL UNIT
IC, Q
IC1
Q4 Q1
Q5 Q2
Q6 Q3 Q7
HEAD UNIT : EXA1088
HD1
MOTHER P.C.BOARD
IC301
IC, Q
Q510 Q505 Q511 Q503 Q301 Q302 IC503 Q603 Q504 Q602 Q512 Q601 Q506 Q606 Q507 Q609 Q514 Q610 IC504 Q611 Q604 Q513
ADJ VR302 VR301
TO FM/AM TUNER UNIT
MOTOR UNIT EXA1089
SWITCH P.C.BOARD
S2 PLAY SWITCH
S1 METAL SWITCH
S1 LOAD SWITCH
S2 END SWITCH
S3 F/R SWITCH
CONNECTOR P.C.BOARD
DISPLAY P.C.BOARD
IC, Q
IC902
Q901 Q902
IC903
IC904
IC901
LCD
OPEN
SOURCE
ASL
BSM
REW
FF
BAND
CLK
ILM
LOUD
SHIFT
VOL-UP
VOL-DW
RI
EJECT SW S3


7
8
9
10
11
12
A
B
C
D
IC702
Q801 Q802 Q803 Q764 Q710 Q706 Q707
IC301
IC701 Q762 Q769 Q760 Q759 Q756 Q750 Q751 Q752 Q765 Q757
Q601 Q606 Q609 Q610 Q611 Q604 Q607 Q608 Q605 Q754 Q758 Q755 Q753 Q769 Q768 Q767 Q766 Q772 IC703
Q506 Q507 Q514 IC504 Q513 Q508 Q502 Q708 Q702 Q701 Q705 Q761 Q770 Q704 Q771 Q773
CG701
AMP P.C.BOARD
Q451 Q452
IC, Q IC451 Q551 IC551
Q552 Q860 Q859 Q855 Q856 Q857 Q858
Q854 Q852 Q851 Q853
AUX
MULTI
IC701
IB701
IB702
IB703
IB704
IB705
14.3V
8.3V
0V
4.3V
4.2V
4.1V
(G)6.6V
(B)3.4V
(OFF)0.8V
3.8V
4.5V
FRONT AMP
REAR AMP
RESET P.C.BOARD
S924
RESET
CSENSE SW
S1
S2
B.UP
GND
A.ANT
4A
0.5A
X701
X702
X501

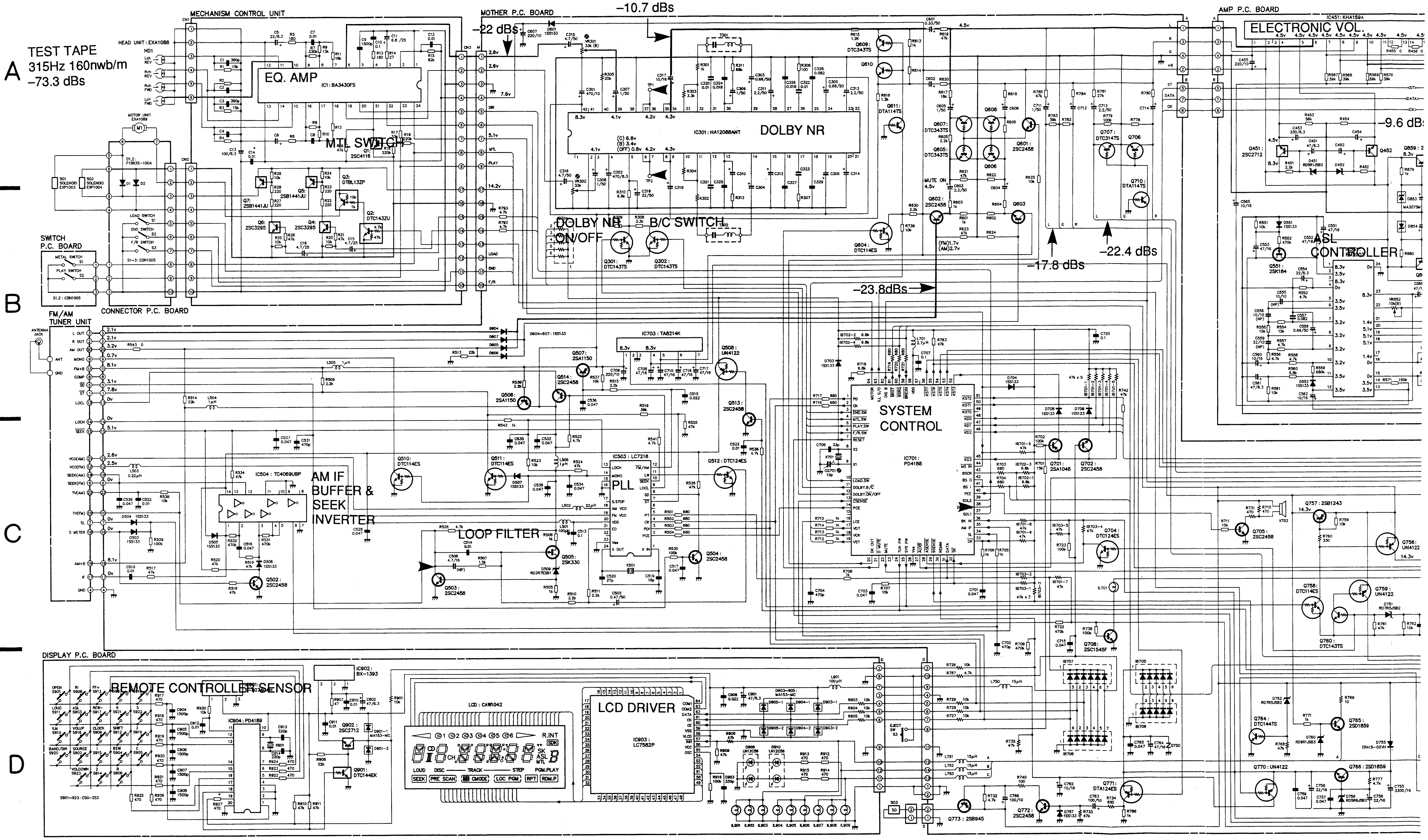
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC451	0	8.3	/	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	/	4.5	/	4.5	/	/	/						
IC551	8.3	3.5	8.3	0	3.5	3.5	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	0	0	1.4	5.1	5.1	5.1	1.4	/	8.3	0

(V)

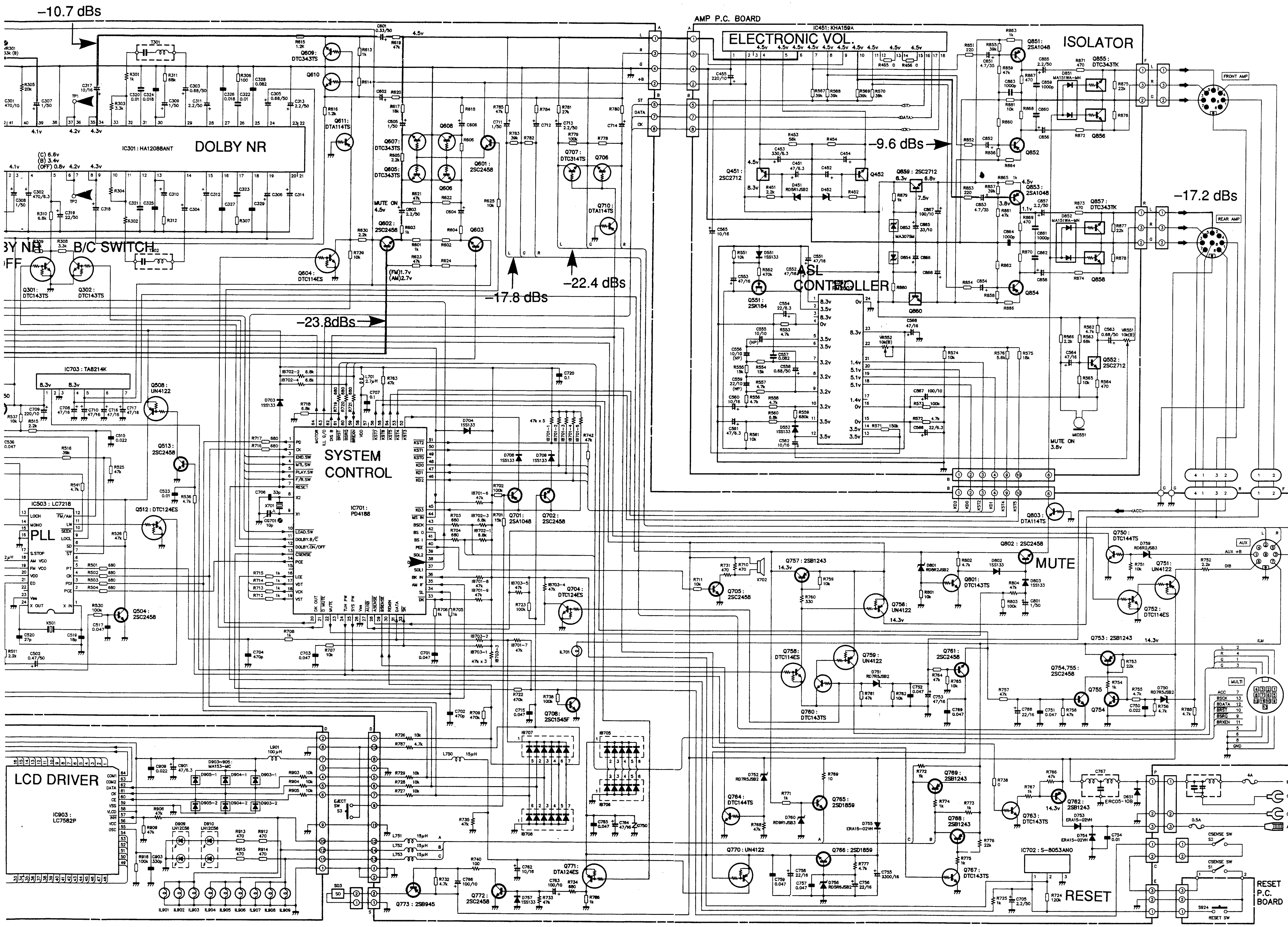
Fig. 24

1 2 3 4 5 6

13. SCHEMATIC CIRCUIT DIAGRAM (KEX-M800/EW)


A
B
C
D
TEST TAPE
315Hz 160nwb/m
−73.3 dBs
MECHANISM CONTROL UNIT
HEAD UNIT : EXA1088
EQ. AMP
IC1 : BA3430FS
MTL SWITCH
SWITCH P.C. BOARD
CONNECTOR P.C. BOARD
MOTHER P.C. BOARD
−10.7 dBs
−22 dBs
DOLBY NR
IC301 : HA12088ANT
DOLBY NR ON/OFF
B/C SWITCH
−17.8 dBs
−22.4 dBs
−23.8dBs
AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159A
−9.6 dBs
ASL CONTROLLER
FM/AM TUNER UNIT
IC703 : TA8214K
IC503 : LC7218
PLL
IC504 : TC4069UBP
AM IF BUFFER & SEEK INVERTER
LOOP FILTER
SYSTEM CONTROL
IC701 : PD4188
DISPLAY P.C. BOARD
REMOTE CONTROLLER SENSOR
IC902 : BX-1393
IC904 : PD4189
LCD : CAW1042
LCD DRIVER
IC903 : LC7582P
SEEK
PRE SCAN
CMODE
LOC PGM
RPT
RDM.P
LOUD
DISC
TRACK
STEP
PGM.PLAY
R.INT

1 2 3 4 5 6


-10.7 dBs
DOLBY NR
IC301 : HA12088ANT
B/C SWITCH
IC703 : TA8214K
IC503 : LC7218
PLL
LCD DRIVER
IC903 : LC7582P
SYSTEM CONTROL
IC701 : PD4188
-23.8dBs
-17.8 dBs
-22.4 dBs
AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159A
ASL CONTROLLER
-9.6 dBs
ISOLATOR
-17.2 dBs
FRONT AMP
REAR AMP
MUTE
AUX
MULTI
RESET
IC702 : S-8053ANO
RESET P.C. BOARD
EJECT SW
CSENSE SW
RESET SW
B.UP
GND
A.ANT

NOTE :

—▭— Indicates a chip resistor.

—▮— Indicates a chip capacitor.

⊠ Indicates a chip transistor.

—▶|— Indicates a chip diode.

A

SWITCHES:

◉SWITCH P.C.BOARD
  S1: METAL SWITCH··························ON—OFF
  S2: PLAY SWITCH···························ON—OFF
◉CONNECTOR P.C.BOARD
  S1: LOAD SWITCH···························ON—OFF
  S2: END SWITCH····························ON—OFF
  S3: F/R SWITCH····························ON—OFF
◉MISCELLANEOUS
  S1: CSENSE SWITCH·························ON—OFF
  S2: CSENSE SWITCH·························ON—OFF

The underlined indicates the switch position.

B

Audio Tuner Unit

Consists of
- Amp P.C. Board
- Mother P.C. Board

C

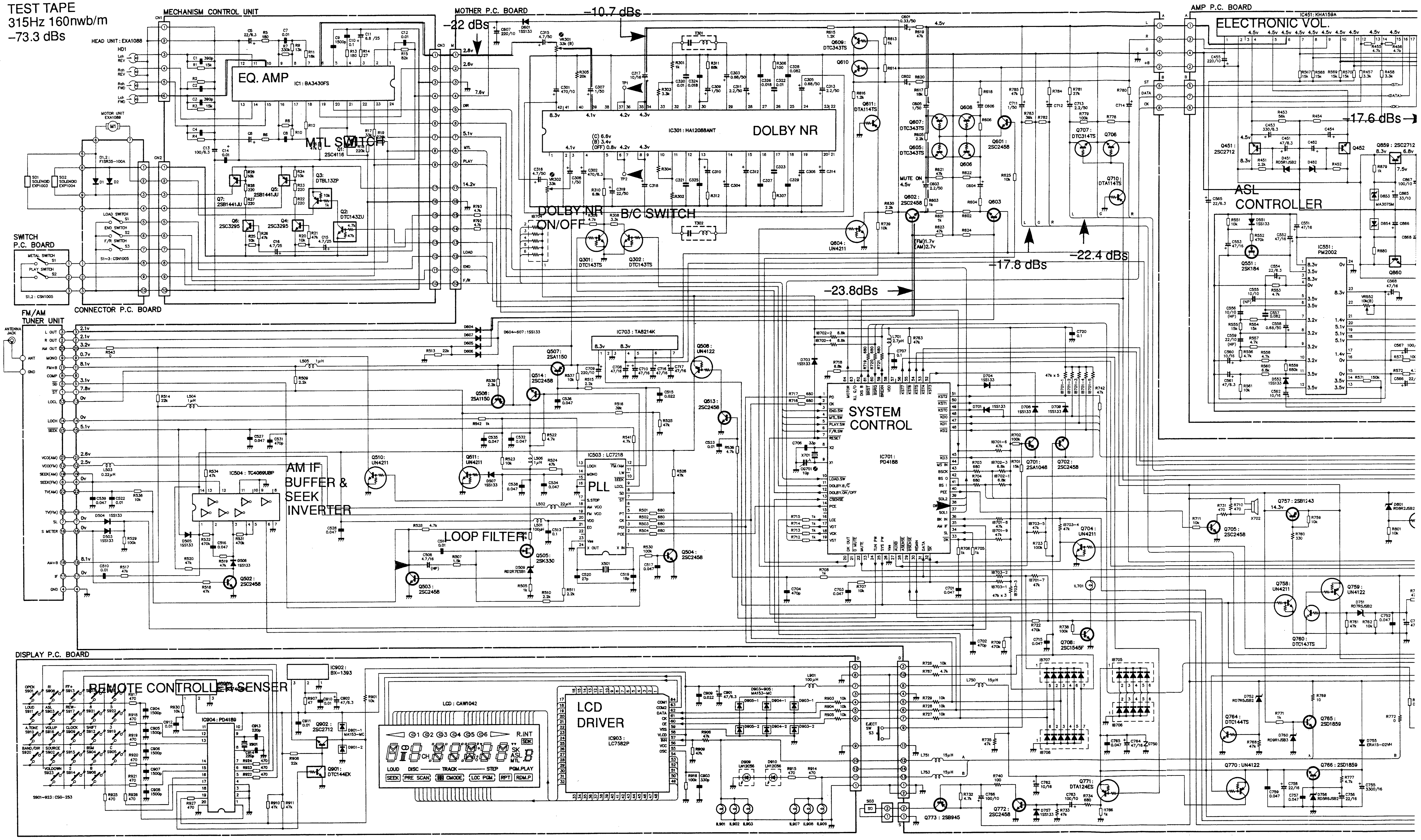
Display Unit

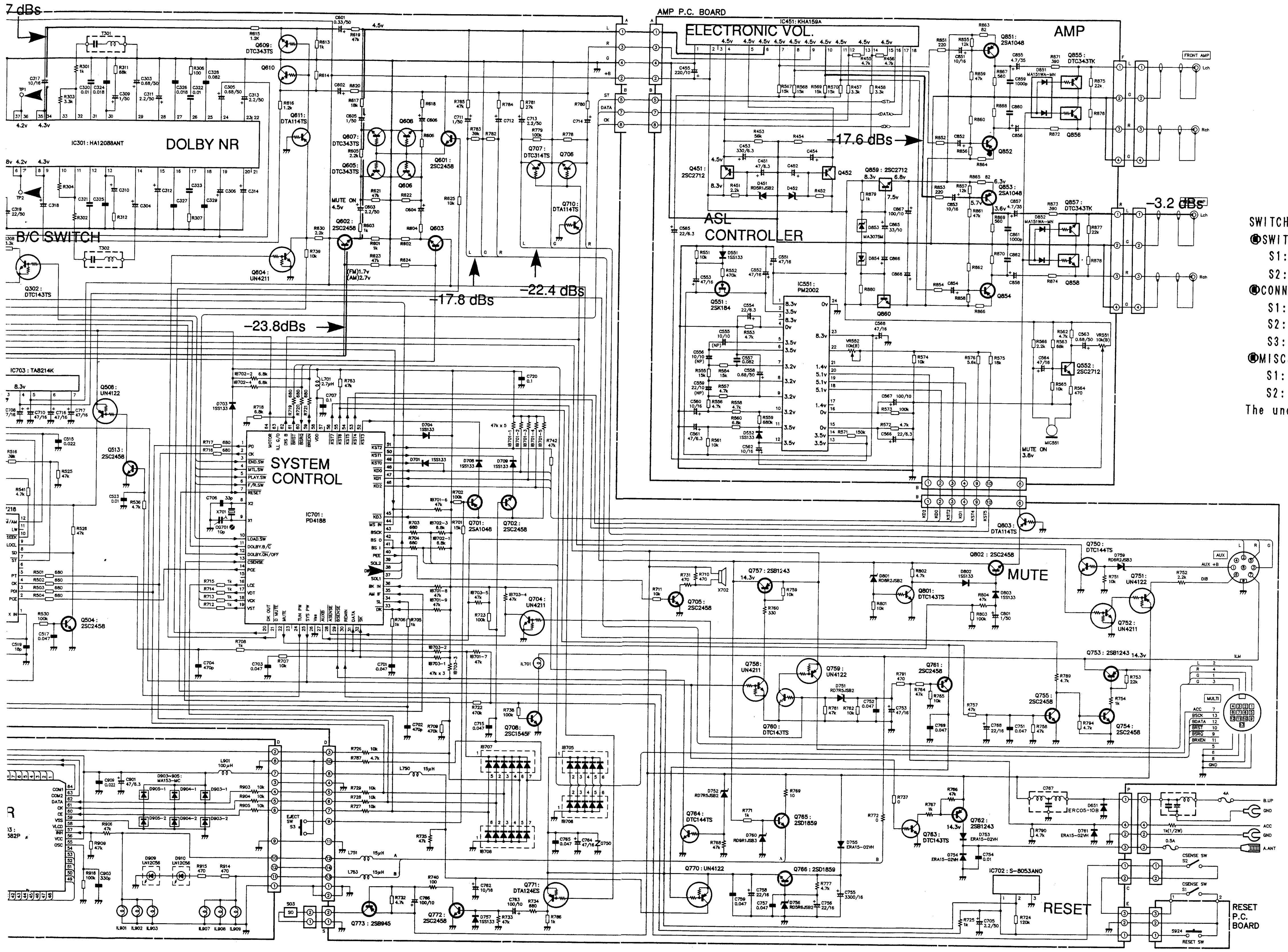
Consists of
- Display P.C. Board
- Reset P.C. Board

D

Fig. 25

14. SCHEMATIC CIRCUIT DIAGRAM (KEX-M800/ES)


TEST TAPE
315Hz 160nwb/m
−73.3 dBs
MECHANISM CONTROL UNIT
HEAD UNIT : EXA1088
EQ. AMP
IC1 : BA3430FS
MTL SWITCH
MOTOR UNIT EXA1089
SWITCH P.C. BOARD
CONNECTOR P.C. BOARD
MOTHER P.C. BOARD
−22 dBs
−10.7 dBs
DOLBY NR
IC301 : HA12088ANT
DOLBY NR ON/OFF
B/C SWITCH
−17.8 dBs
−22.4 dBs
−23.8dBs
AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159A
−17.6 dBs
ASL CONTROLLER
IC551 : PM2002
FM/AM TUNER UNIT
IC703 : TA8214K
SYSTEM CONTROL
IC701 : PD4188
AM IF BUFFER & SEEK INVERTER
IC504 : TC4069UBP
PLL
IC503 : LC7218
LOOP FILTER
DISPLAY P.C. BOARD
REMOTE CONTROLLER SENSER
IC902 : BX-1393
IC904 : PD4189
LCD : CAW1042
LCD DRIVER
IC903 : LC7582P
A
B
C
D



AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159A
AMP
DOLBY NR
IC301 : HA12088ANT
B/C SWITCH
ASL
CONTROLLER
IC551 : PM2002
SYSTEM
CONTROL
IC701 : PD4188
IC703 : TA8214K
MUTE
RESET
IC702 : S-8053ANO
RESET
P.C.
BOARD
–17.6 dBs
–3.2 dBs
–17.8 dBs
–22.4 dBs
–23.8dBs
7 dBs
FRONT AMP
Lch
Rch
AUX
MULTI
MUTE ON
3.8v
EJECT SW
CSENSE SW
RESET SW

NOTE :

Indicates a chip resistor.

Indicates a chip capacitor.

Indicates a chip transistor.

Indicates a chip diode.

SWITCHES:

●SWITCH P.C.BOARD

S1: METAL SWITCH··················ON—OFF

S2: PLAY SWITCH···················ON—OFF

●CONNECTOR P.C.BOARD

S1: LOAD SWITCH···················ON—OFF

S2: END SWITCH····················ON—OFF

S3: F/R SWITCH····················ON—OFF

●MISCELLANEOUS

S1: CSENSE SWITCH·················ON—OFF

S2: CSENSE SWITCH·················ON—OFF

The underlined indicates the switch position.

Audio Tuner Unit

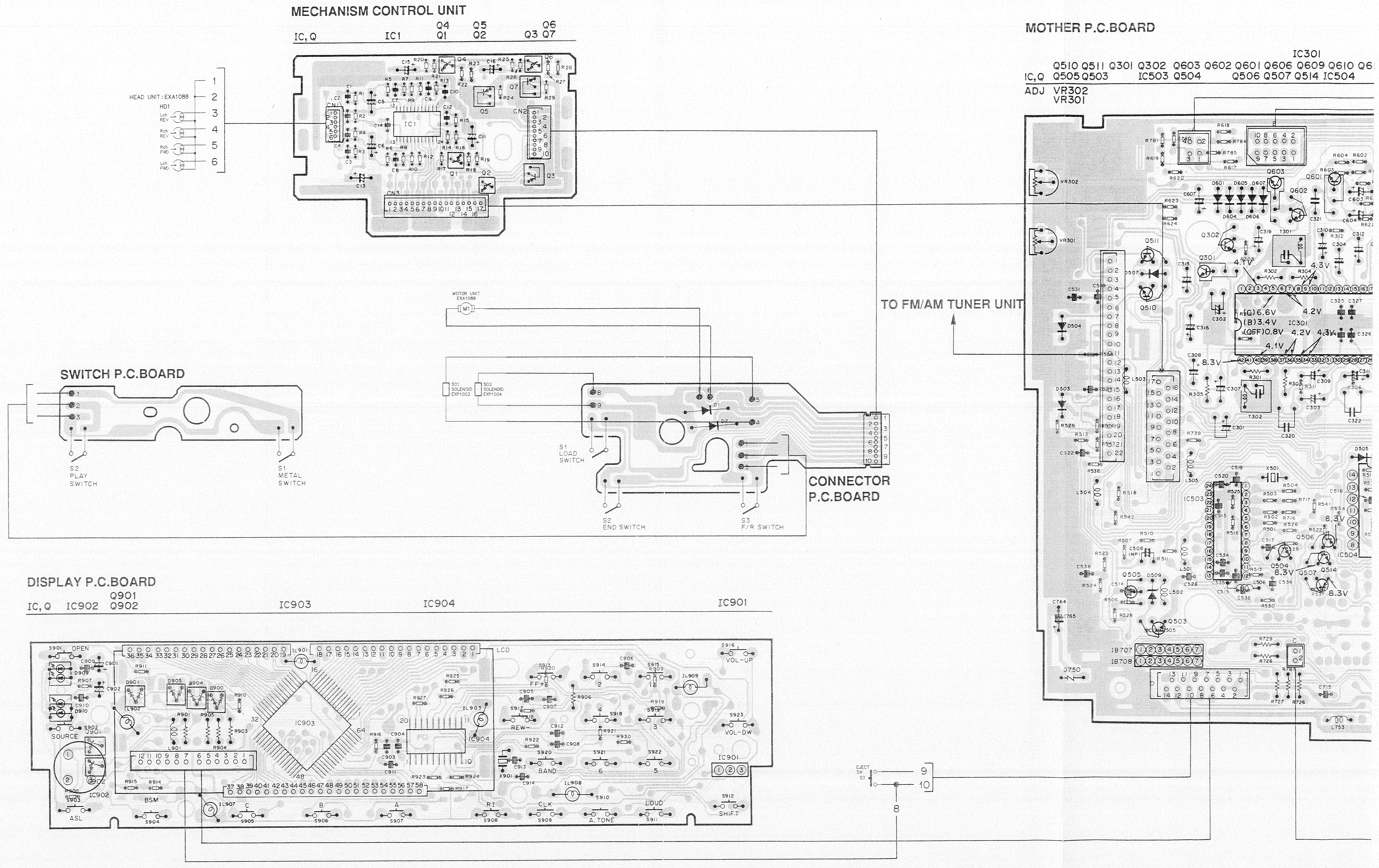
Consists of
- Amp P.C.Board
- Mother P.C.Board

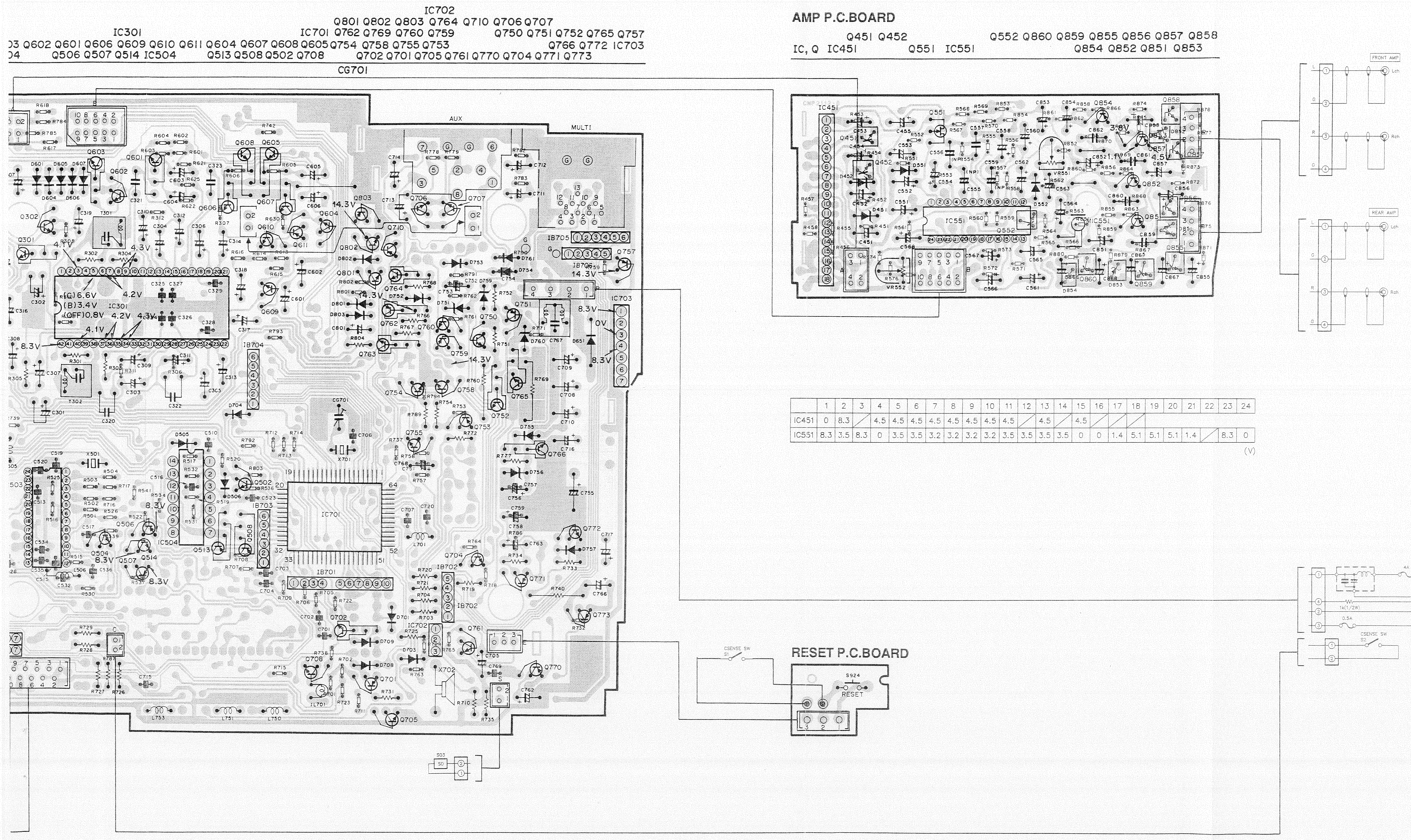
Display Unit

Consists of
- Display P.C.Board
- Reset P.C.Board

Fig. 26

15. CONNECTION DIAGRAM (KEX-M800/ES)


MECHANISM CONTROL UNIT
IC, Q
IC1
Q4 Q1
Q5 Q2
Q6 Q3 Q7
HEAD UNIT : EXA1088
HD1
Lch REV
Rch REV
Rch FWD
Lch FWD
CN1
CN2
CN3
MOTOR UNIT EXA1089
M1
S01 SOLENOID EXP1003
S02 SOLENOID EXP1004
D1
D2
SWITCH P.C.BOARD
S2 PLAY SWITCH
S1 METAL SWITCH
S1 LOAD SWITCH
S2 END SWITCH
S3 F/R SWITCH
CONNECTOR P.C.BOARD
TO FM/AM TUNER UNIT
MOTHER P.C.BOARD
IC301
IC, Q
Q510 Q511 Q301 Q302 Q603 Q602 Q601 Q606 Q609 Q610 Q6
Q505 Q503 IC503 Q504 Q506 Q507 Q514 IC504
ADJ VR302 VR301
VR302
VR301
T301
T302
X501
(C)6.6V
(B)3.4V
(OFF)0.8V
4.1V
4.2V
4.3V
8.3V
IB707
IB708
G750
DISPLAY P.C.BOARD
IC, Q
IC902
Q901 Q902
IC903
IC904
IC901
LCD
S901 OPEN
SOURCE
ASL
BSM
C
B
A
RI
CLK
A.TONE
LOUD
SHIFT
FF+8
REW-
BAND
VOL-UP
VOL-DW
EJECT SW S3

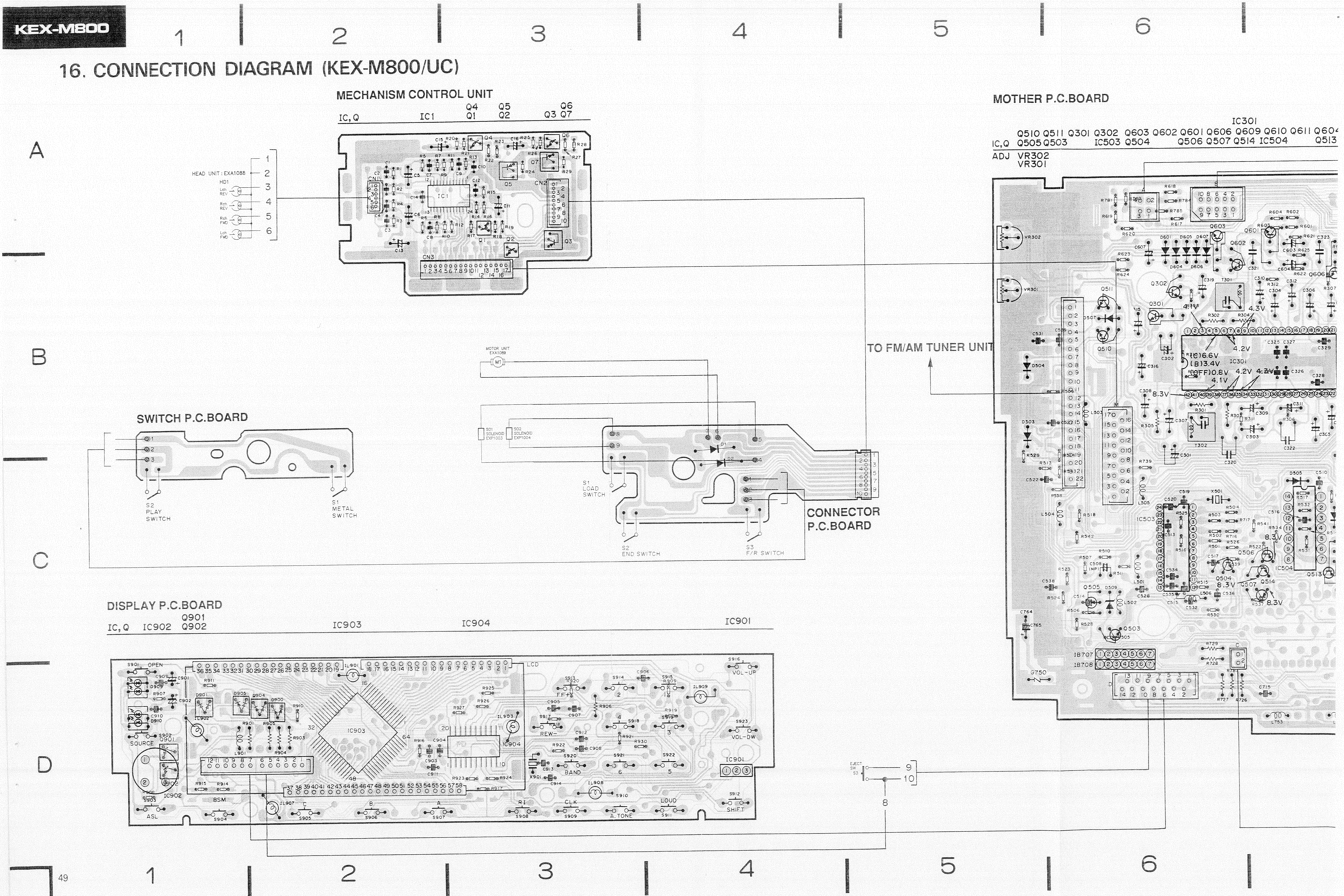

IC702
Q801 Q802 Q803 Q764 Q710 Q706 Q707
IC301
IC701 Q762 Q769 Q760 Q759
Q750 Q751 Q752 Q765 Q757
Q602 Q601 Q606 Q609 Q610 Q611 Q604 Q607 Q608 Q605 Q754 Q758 Q755 Q753
Q766 Q772 IC703
Q506 Q507 Q514 IC504
Q513 Q508 Q502 Q708
Q702 Q701 Q705 Q761 Q770 Q704 Q771 Q773
CG701
AUX
MULTI
AMP P.C.BOARD
Q451 Q452
Q552 Q860 Q859 Q855 Q856 Q857 Q858
IC, Q IC451
Q551 IC551
Q854 Q852 Q851 Q853
FRONT AMP
REAR AMP
Lch
Rch
B.UP
GND
ACC
A.ANT
4A
0.5A
1k(1/2W)
CSENSE SW S1
CSENSE SW S2
RESET P.C.BOARD
S924
RESET
S03
A
B
C
D

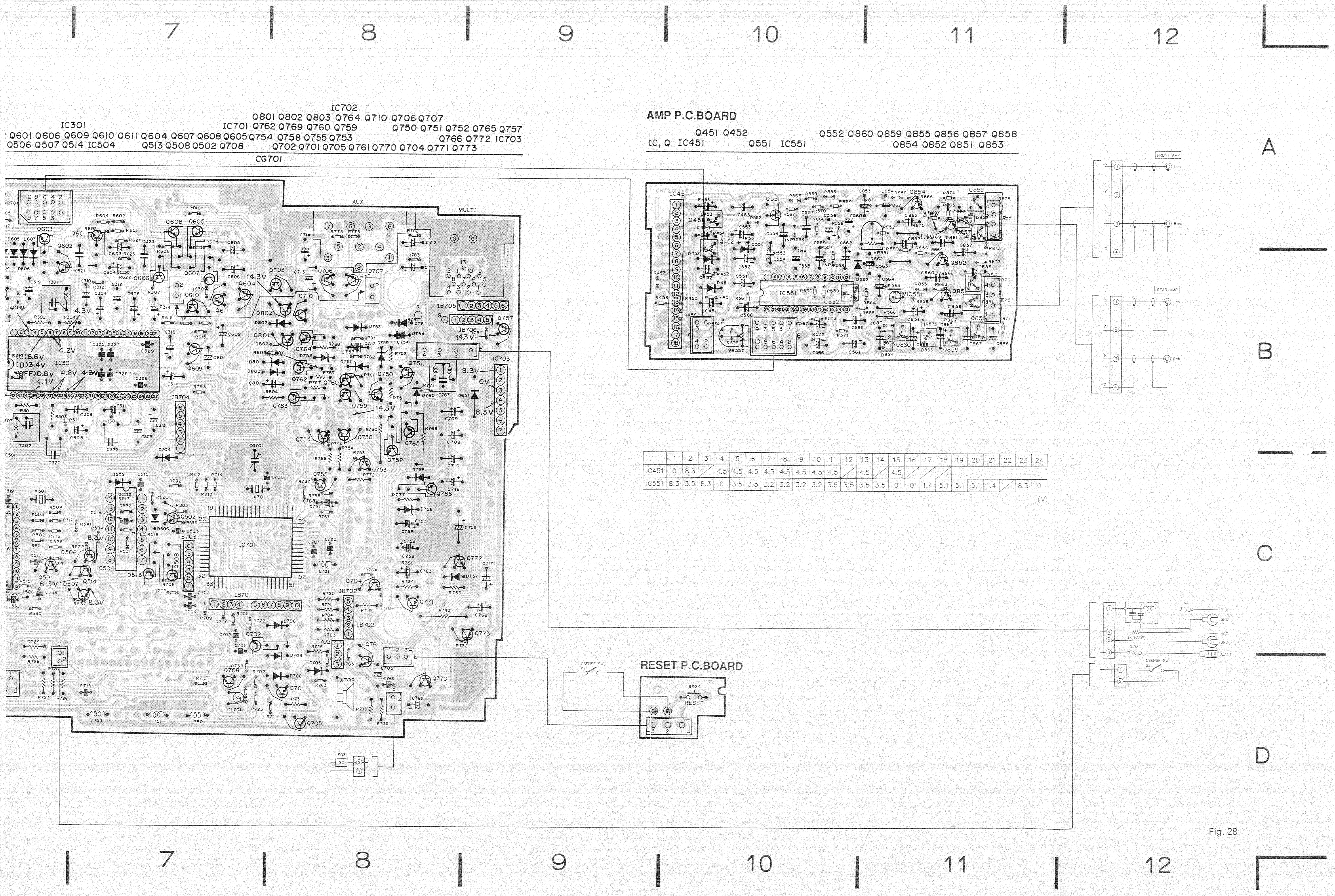
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC451	0	8.3	/	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	/	4.5	/	4.5	/	/	/						
IC551	8.3	3.5	8.3	0	3.5	3.5	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	0	0	1.4	5.1	5.1	5.1	1.4	/	8.3	0

(V)

Fig. 27

16. CONNECTION DIAGRAM (KEX-M800/UC)


1
2
3
4
5
6
A
B
C
D
MECHANISM CONTROL UNIT
IC, Q
IC1
Q4 Q1
Q5 Q2
Q6 Q3 Q7
HEAD UNIT : EXA1088
HD1
Lch REV
Rch REV
Rch FWD
Lch FWD
CN1
CN2
CN3
MOTOR UNIT EXA1089
M1
SO1 SOLENOID EXP1003
SO2 SOLENOID EXP1004
SWITCH P.C.BOARD
S2 PLAY SWITCH
S1 METAL SWITCH
S1 LOAD SWITCH
S2 END SWITCH
S3 F/R SWITCH
D1
D2
CONNECTOR P.C.BOARD
TO FM/AM TUNER UNIT
MOTHER P.C.BOARD
IC301
IC,Q Q510 Q511 Q301 Q302 Q603 Q602 Q601 Q606 Q609 Q610 Q611 Q604
Q505 Q503 IC503 Q504 Q506 Q507 Q514 IC504 Q513
ADJ VR302 VR301
VR302
VR301
4.3V
(C)6.6V
(B)13.4V
(FF)0.8V
4.2V
4.1V
8.3V
IC503
IC504
X501
T301
T302
8.3V
IB707
IB708
G750
DISPLAY P.C.BOARD
IC, Q IC902 Q901 Q902
IC903
IC904
IC901
LCD
S901 OPEN
S902 SOURCE
S903 ASL
S904 BSM
S905 C
S906 B
S907 A
S908 RI
S909 CLK
S910
S911 LOUD
S912 SHIFT
S913 F.F
S914
S915
S916 VOL-UP
S917 REW
S918
S919
S920 BAND
S921
S922
S923 VOL-DW
A.TONE
IL901
IL902
IL903
IL907
IL908
IL909
X901
EJECT SW S3
8
9
10

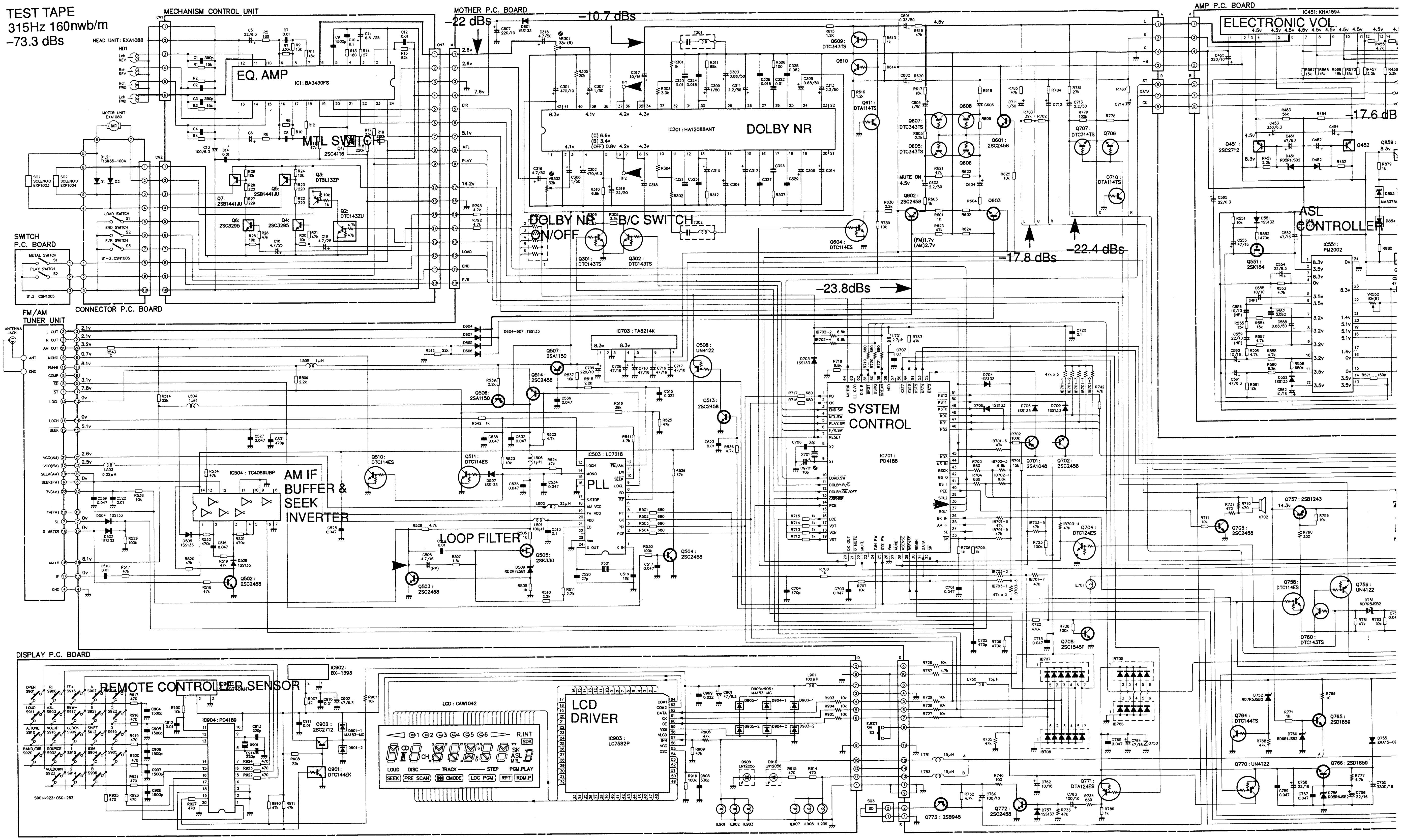

7
8
9
10
11
12
A
B
C
D
IC702
Q801 Q802 Q803 Q764 Q710 Q706 Q707
IC301
IC701 Q762 Q769 Q760 Q759
Q750 Q751 Q752 Q765 Q757
Q601 Q606 Q609 Q610 Q611 Q604 Q607 Q608 Q605 Q754 Q758 Q755 Q753
Q766 Q772 IC703
Q506 Q507 Q514 IC504
Q513 Q508 Q502 Q708
Q702 Q701 Q705 Q761 Q770 Q704 Q771 Q773
CG701
AUX
MULTI
IC701
IC301
IC504
IB701
IB702
IB703
IB704
IB705
IB706
14.3V
4.3V
4.2V
8.3V
0V
AMP P.C.BOARD
IC, Q
IC451
Q451 Q452
Q551
IC551
Q552 Q860 Q859 Q855 Q856 Q857 Q858
Q854 Q852 Q851 Q853
VR551
VR552
FRONT AMP
REAR AMP
Lch
Rch
B.UP
GND
ACC
A.ANT
CSENSE SW
RESET P.C.BOARD
S924
RESET
S03

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC451	0	8.3	/	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	/	4.5	/	4.5	/	/	/						
IC551	8.3	3.5	8.3	0	3.5	3.5	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	0	0	1.4	5.1	5.1	5.1	1.4	/	8.3	0

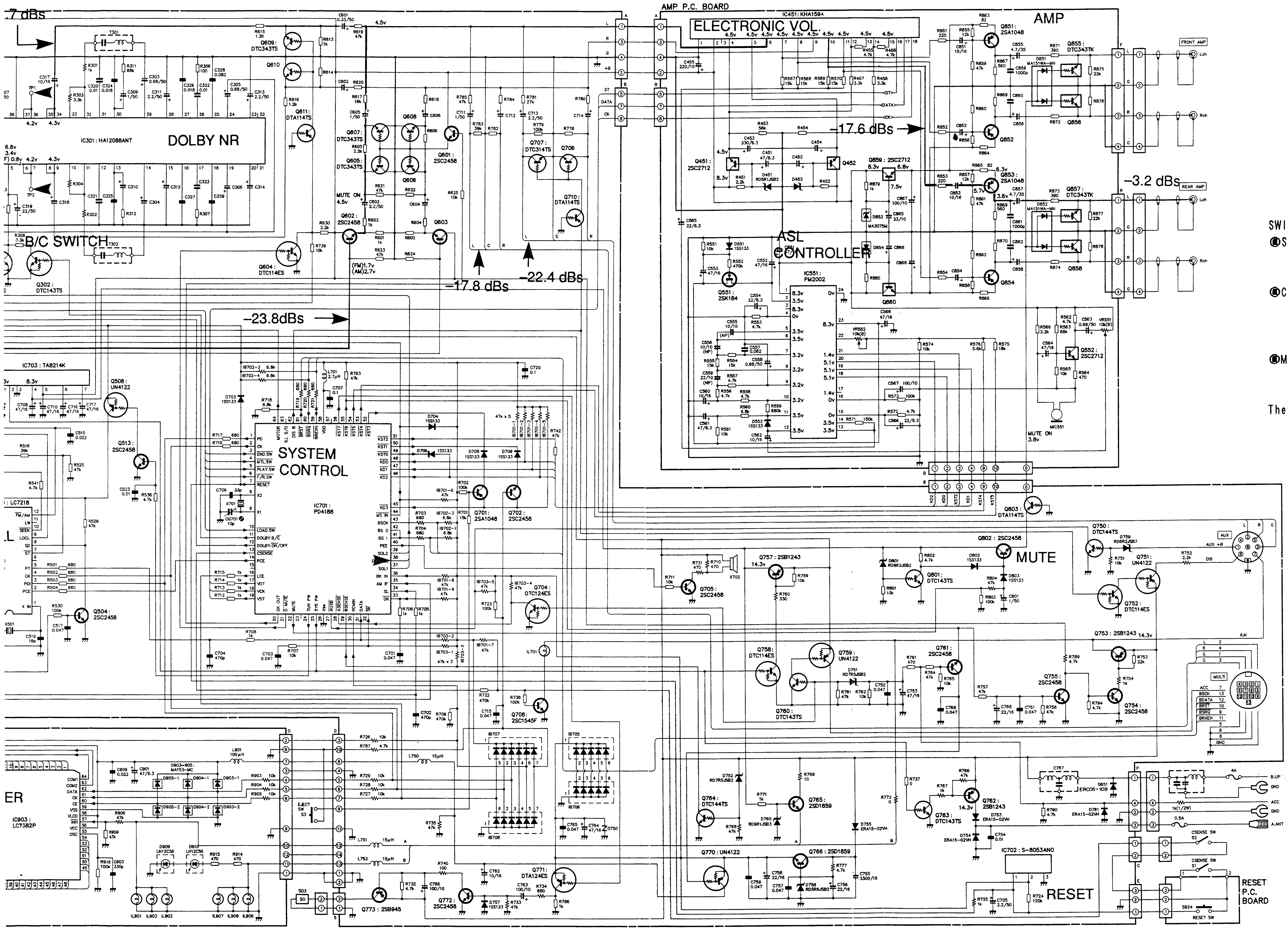
(V)

Fig. 28

17. SCHEMATIC CIRCUIT DIAGRAM (KEX-M800/UC)



TEST TAPE
315Hz 160nwb/m
-73.3 dBs
MECHANISM CONTROL UNIT
HEAD UNIT : EXA1088
HD1
EQ. AMP
IC1 : BA3430FS
MTL SWITCH
MOTOR UNIT EXA1088
SWITCH P.C. BOARD
CONNECTOR P.C. BOARD
MOTHER P.C. BOARD
-22 dBs
-10.7 dBs
IC301 : HA12088ANT
DOLBY NR
DOLBY NR ON/OFF
B/C SWITCH
-17.8 dBs
-22.4 dBs
-23.8dBs
AMP P.C. BOARD
IC451 : KHA159A
ELECTRONIC VOL
-17.6 dB
ASL CONTROLLER
IC551 : PM2002
FM/AM TUNER UNIT
IC703 : TA8214K
IC504 : TC4069UBP
AM IF BUFFER & SEEK INVERTER
IC503 : LC7218
PLL
LOOP FILTER
SYSTEM CONTROL
IC701 : PD4188
DISPLAY P.C. BOARD
REMOTE CONTROLLER SENSOR
IC902 : BX-1393
IC904 : PD4189
LCD : CAW1042
LCD DRIVER
IC903 : LC7582P
1
2
3
4
5
6
A
B
C
D


4
5
6
7
8
9
A
B
C
D
-7 dBs
IC301 : HA12088ANT
DOLBY NR
B/C SWITCH
-23.8dBs
-17.8 dBs
-22.4 dBs
AMP P.C. BOARD
IC451 : KHA159A
ELECTRONIC VOL
AMP
-17.6 dBs
-3.2 dBs
FRONT AMP
REAR AMP
ASL CONTROLLER
IC551 : PM2002
IC703 : TA8214K
SYSTEM CONTROL
IC701 : PD4188
MUTE
IC702 : S-8053ANO
RESET
RESET P.C. BOARD
IC903 : LC7382P
MULTI
AUX

NOTE :

Indicates a chip resistor.

Indicates a chip capacitor.

Indicates a chip transistor.

Indicates a chip diode.

SWITCHES:

●SWITCH P.C. BOARD

S1: METAL SWITCH……………………ON — OFF

S2: PLAY SWITCH……………………ON — OFF

●CONNECTOR P.C. BOARD

S1: LOAD SWITCH……………………ON — OFF

S2: END SWITCH……………………ON — OFF

S3: F/R SWITCH……………………ON — OFF

●MISCELLANEOUS

S1: CSENSE SWITCH……………………ON — OFF

S2: CSENSE SWITCH……………………ON — OFF

The underlined indicates the switch position.

Audio Tuner Unit

Consists of
- Amp P.C. Board
- Mother P.C. Board

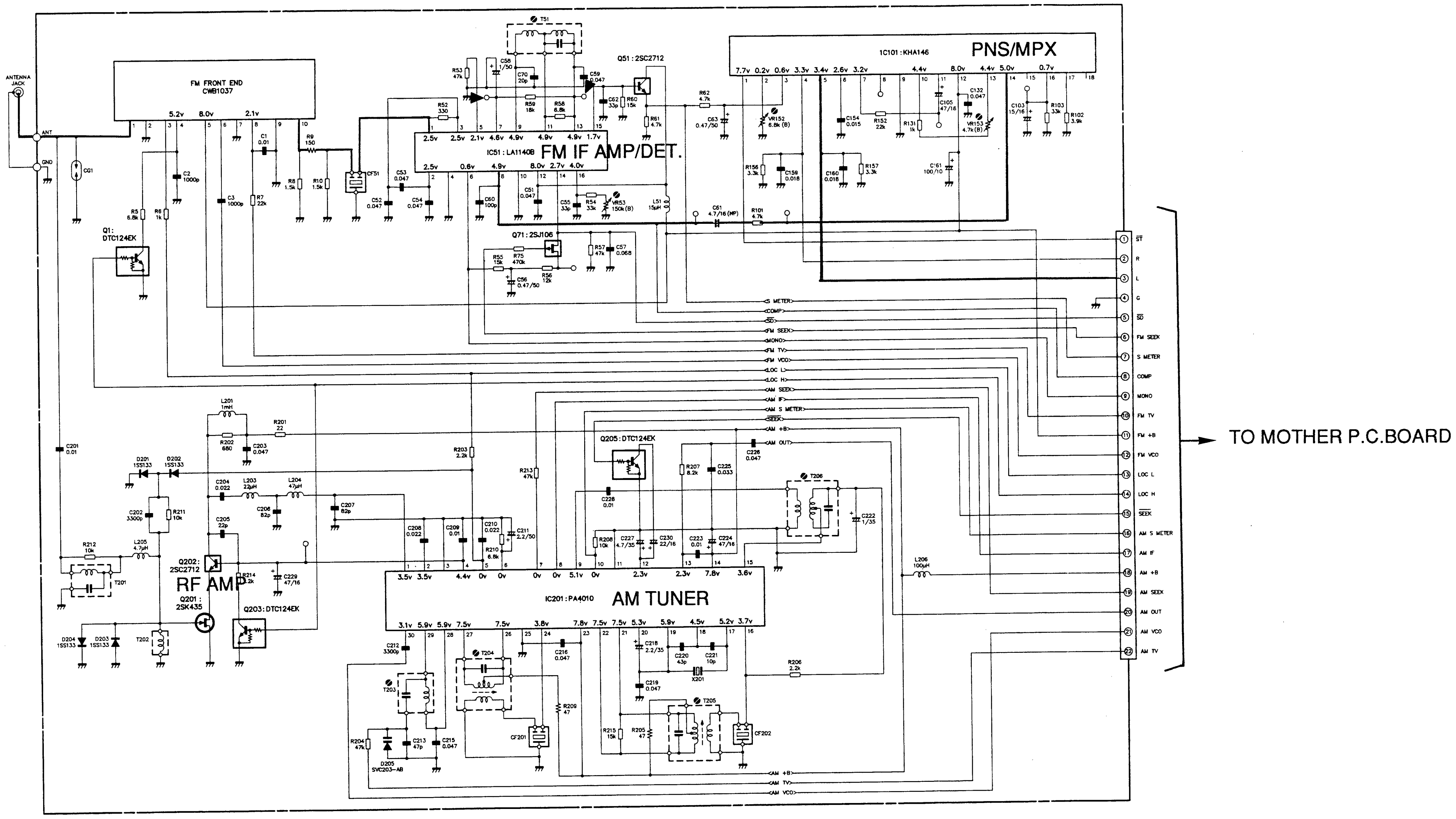
Display Unit

Consists of
- Display P.C. Board
- Reset P.C. Board

Fig. 29

18. FM/AM TUNER UNIT

- KEX-M800SDK/WG, KEX-M800/EW


FM FRONT END
CWB1037
ANTENNA JACK
ANT
GND
CG1
Q1: DTC124EX
Q51: 2SC2712
T51
IC51: LA1140B
FM IF AMP/DET.
Q71: 2SJ106
IC101: KHA146
PNS/MPX
Q205: DTC124EX
T206
IC201: PA4010
AM TUNER
Q202: 2SC2712
RF AMP
Q201: 2SK435
Q203: DTC124EX
T201
T202
T203
T204
T205
CF201
CF202
X201
D205 SVC203-AB
① ST
② R
③ L
④ G
⑤ SD
⑥ FM SEEK
⑦ S METER
⑧ COMP
⑨ MONO
⑩ FM TV
⑪ FM +B
⑫ FM VCO
⑬ LOC L
⑭ LOC H
⑮ SEEK
⑯ AM S METER
⑰ AM IF
⑱ AM +B
⑲ AM SEEK
⑳ AM OUT
㉑ AM VCO
㉒ AM TV
TO MOTHER P.C.BOARD

- KEX-M800/ES

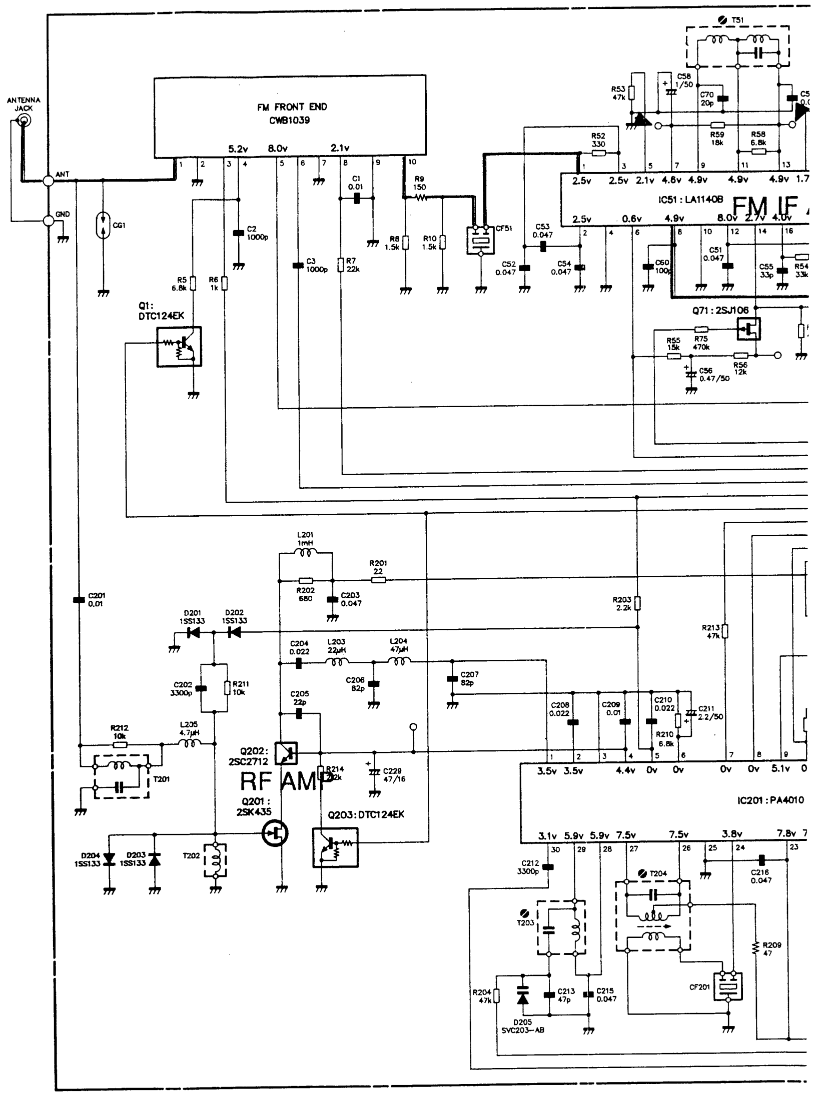

FM FRONT END
CWB1039
ANTENNA JACK
ANT
GND
CG1
Q1: DTC124EX
T51
IC51: LA1140B
FM IF
Q71: 2SJ106
Q202: 2SC2712
RF AMP
Q201: 2SK435
Q203: DTC124EX
IC201: PA4010
T201
T202
T203
T204
CF201
D205 SVC203-AB

Fig. 30

• KEX-M800/ES

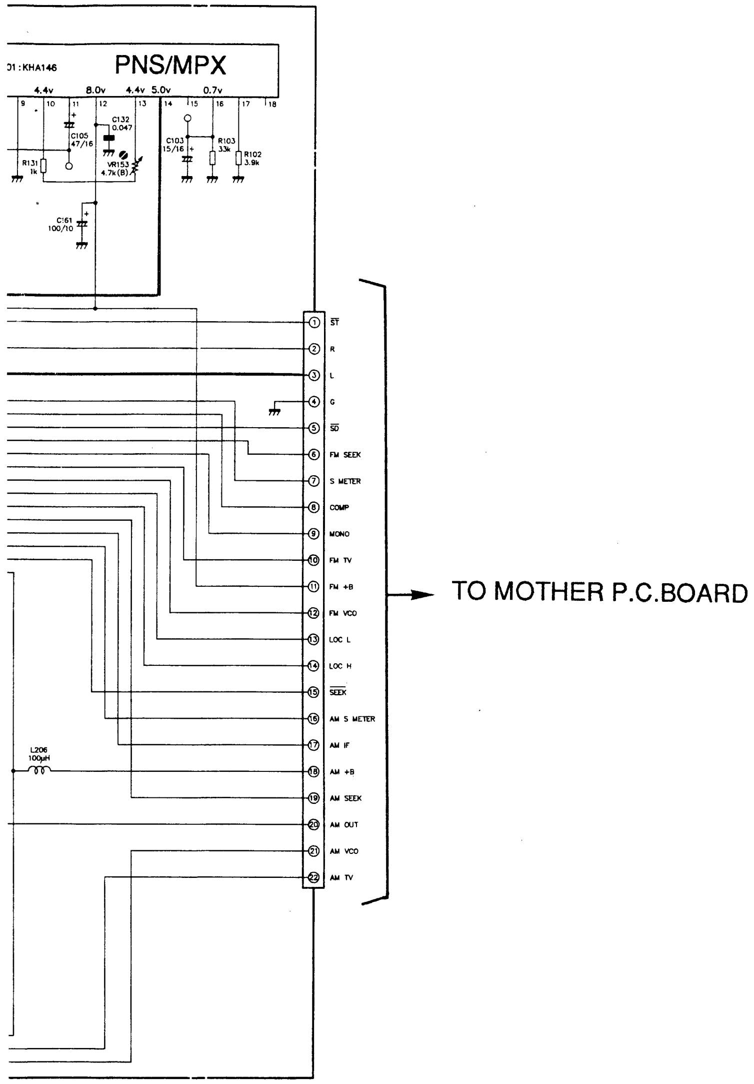

PNS/MPX
KHA146
TO MOTHER P.C.BOARD
ST
R
L
G
SD
FM SEEK
S METER
COMP
MONO
FM TV
FM +B
FM VCO
LOC L
LOC H
SEEK
AM S METER
AM IF
AM +B
AM SEEK
AM OUT
AM VCO
AM TV
L206 100μH

Fig. 30

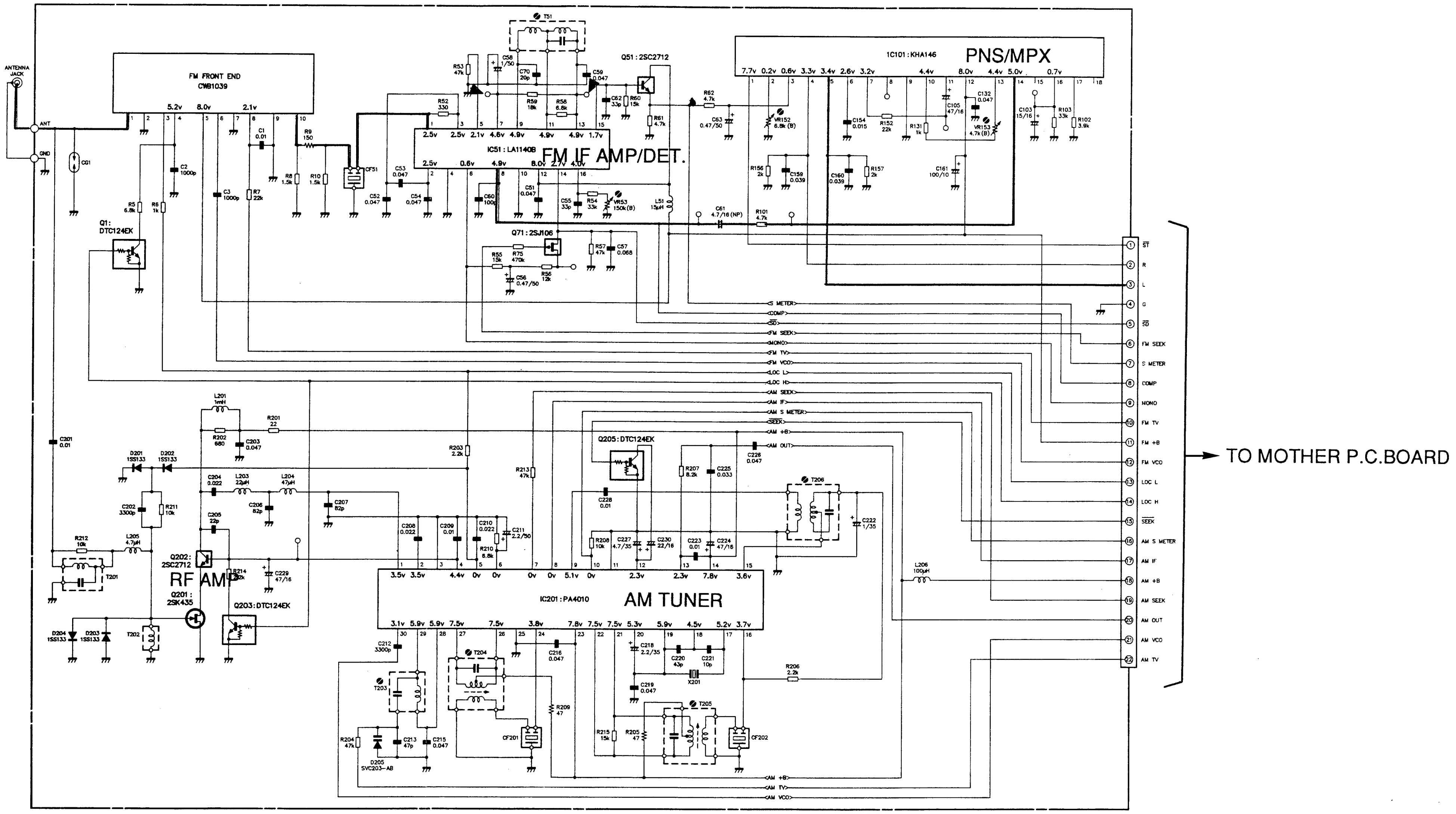
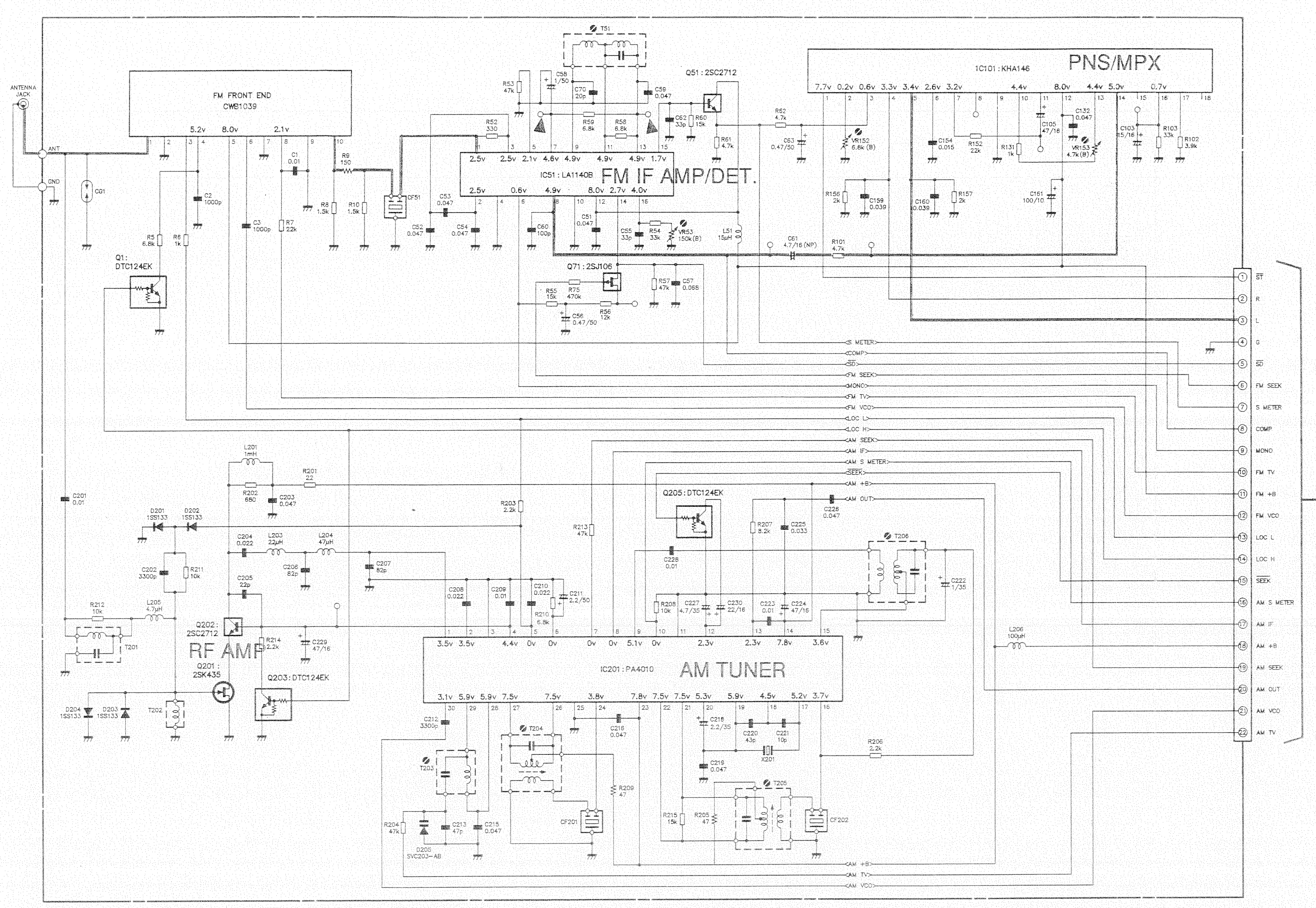

ANTENNA JACK
ANT
GND
FM FRONT END
CWB1039
FM IF AMP/DET.
IC51 : LA1140B
Q51 : 2SC2712
Q71 : 2SJ106
Q1 : DTC124EK
PNS/MPX
IC101 : KHA146
RF AMP
Q201 : 2SK435
Q202 : 2SC2712
Q203 : DTC124EK
Q205 : DTC124EK
AM TUNER
IC201 : PA4010
TO MOTHER P.C.BOARD
ST
R
L
G
SD
FM SEEK
S METER
COMP
MONO
FM TV
FM +B
FM VCO
LOC L
LOC H
SEEK
AM S METER
AM IF
AM +B
AM SEEK
AM OUT
AM VCO
AM TV

Fig. 31

• KEX-M800/UC

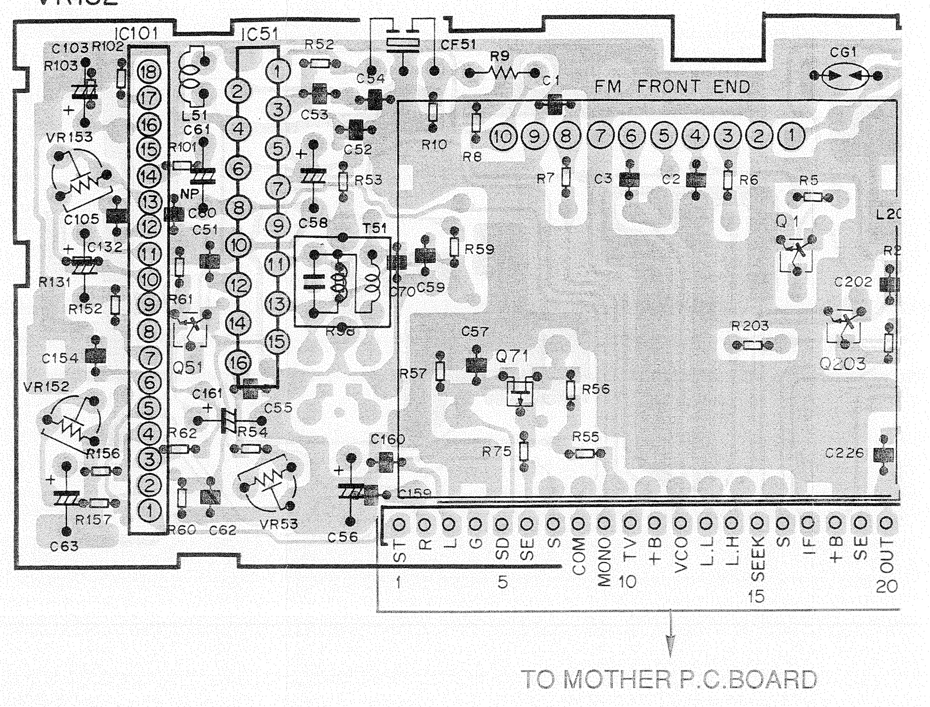


ANTENNA JACK
FM FRONT END
CWB1039
FM IF AMP/DET.
IC51 : LA1140B
Q51 : 2SC2712
Q71 : 2SJ106
IC101 : KHA146
PNS/MPX
Q1 : DTC124EK
Q205 : DTC124EK
RF AMP
Q202 : 2SC2712
Q201 : 2SK435
Q203 : DTC124EK
IC201 : PA4010
AM TUNER
TO MOTHER P.C.BOARD

Fig. 32

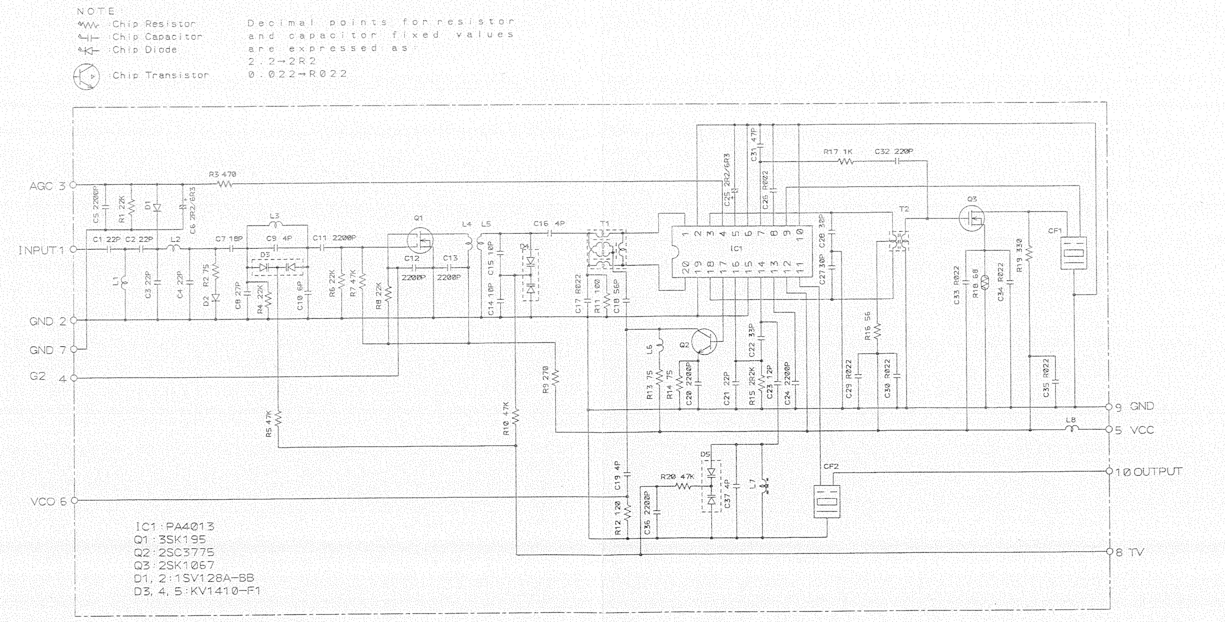
• KEX-M800SDK/WG, KEX-M800/EW, KEX-M800/ES, KEX-M800/UC

IC,Q	IC101	Q51	IC51	Q71	Q1	Q203
ADJ	VR153 VR152		VR53 T51			



IC101
IC51
FM FRONT END
ST
R
L
G
SD
SE
S
COMP
MONO
TV
+B
VCO
L.L
L.H
SEEK
S
IF
+B
SE
OUT
1
5
10
15
20
TO MOTHER P.C.BOARD

• FM FONT END (CWB1037) KEX-M800SDK/WG, KEX-M800/EW


NOTE

Chip Resistor

Chip Capacitor

Chip Diode

Chip Transistor

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

IC1 : PA4013
Q1 : 3SK195
Q2 : 2SC3775
Q3 : 2SK1067
D1, 2 : 1SV128A-BB
D3, 4, 5 : KV1410-F1

AGC 3
INPUT 1
GND 2
GND 7
G2 4
VCO 6
9 GND
5 VCC
10 OUTPUT
8 TV
IC1

Fig. 34

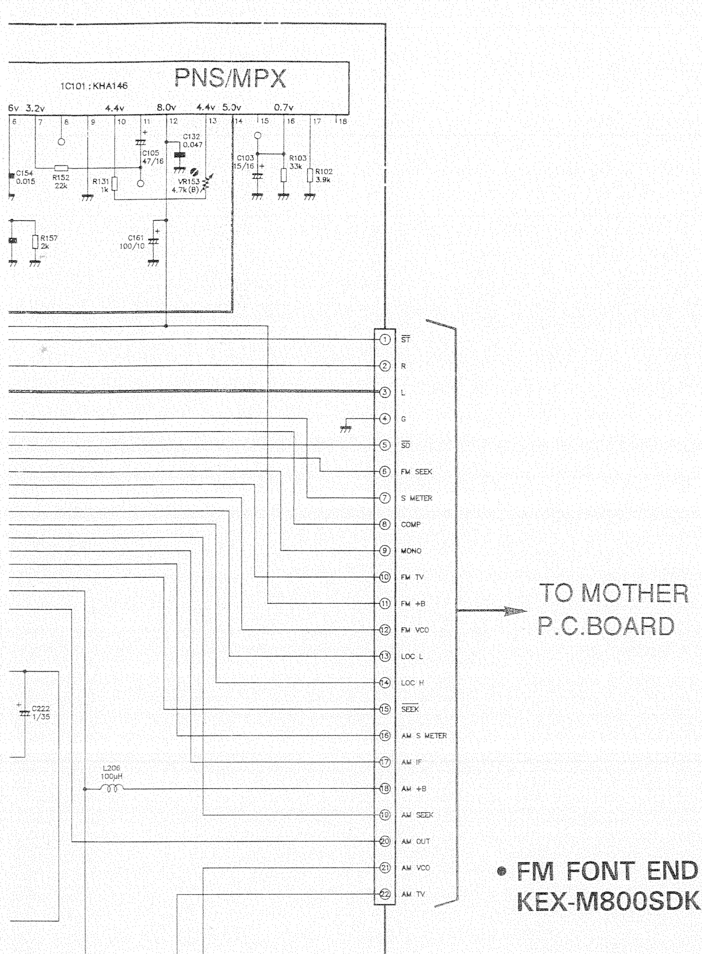

IC101 : KHA146
PNS/MPX
VR103 4.7k(B)
ST
R
L
G
SD
FM SEEK
S METER
COMP
MONO
FM TV
FM +B
FM VCO
LOC L
LOC H
SEEK
AM S METER
AM IF
AM +B
AM SEEK
AM OUT
AM VCO
AM TV
L206 100μH
TO MOTHER
P.C.BOARD

Fig. 32

• KEX-M800SDK/WG, KEX-M800/EW, KEX-M800/ES, KEX-M800/UC

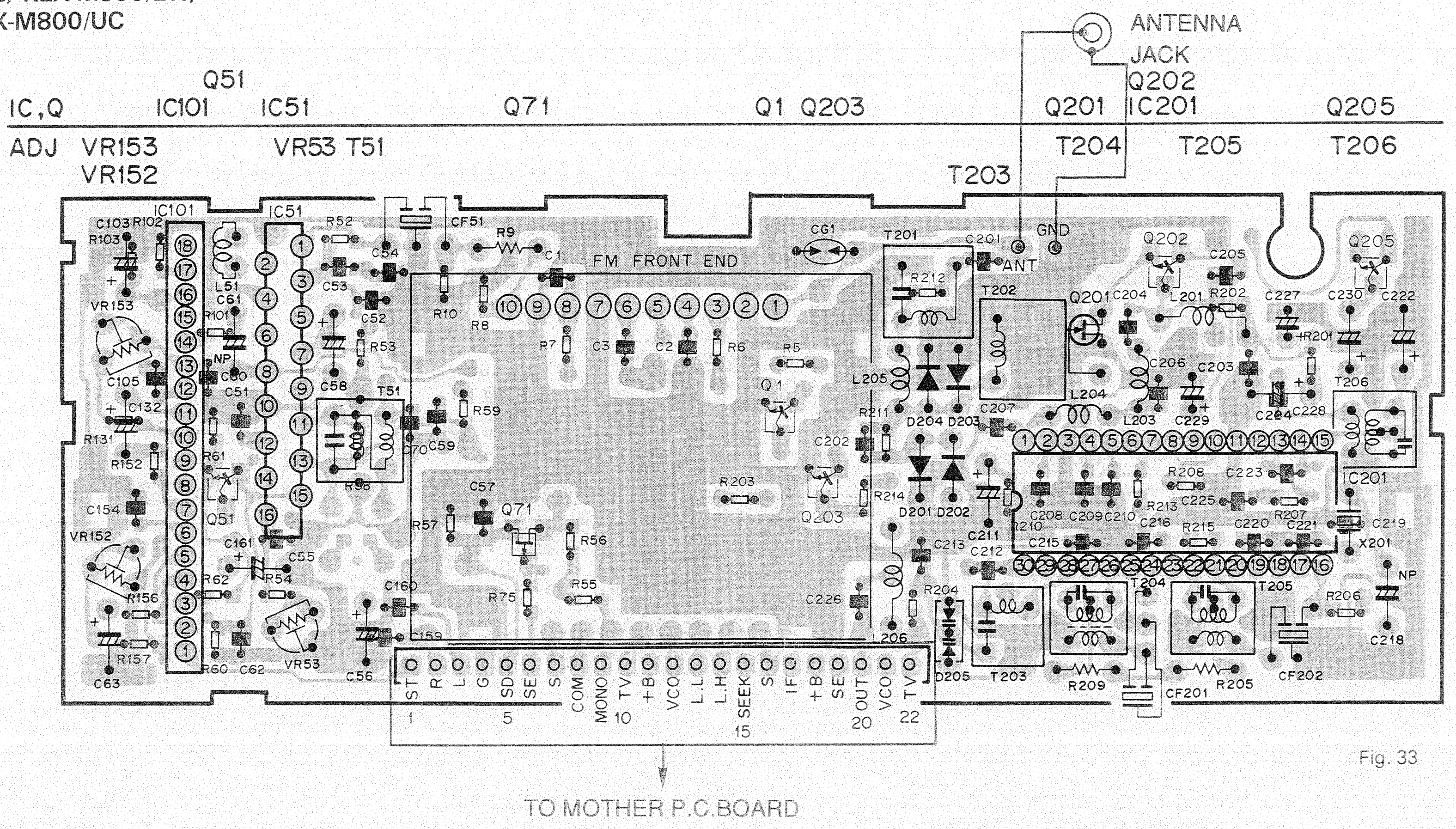

ANTENNA
JACK
IC,Q
ADJ
Q51
IC101
IC51
Q71
Q1
Q203
Q201
Q202
IC201
Q205
VR153
VR152
VR53
T51
T203
T204
T205
T206
FM FRONT END
GND
ANT
ST
R
L
G
SD
SE
S
COMP
MONO
TV
+B
VCO
L.L
L.H
SEEK
S
IF
+B
SE
OUT
VCO
TV
1
5
10
15
20
22
TO MOTHER P.C.BOARD

Fig. 33

• FM FONT END (CWB1037)
KEX-M800SDK/WG, KEX-M800/EW

NOTE
:Chip Resistor
:Chip Capacitor
:Chip Diode
:Chip Transistor

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

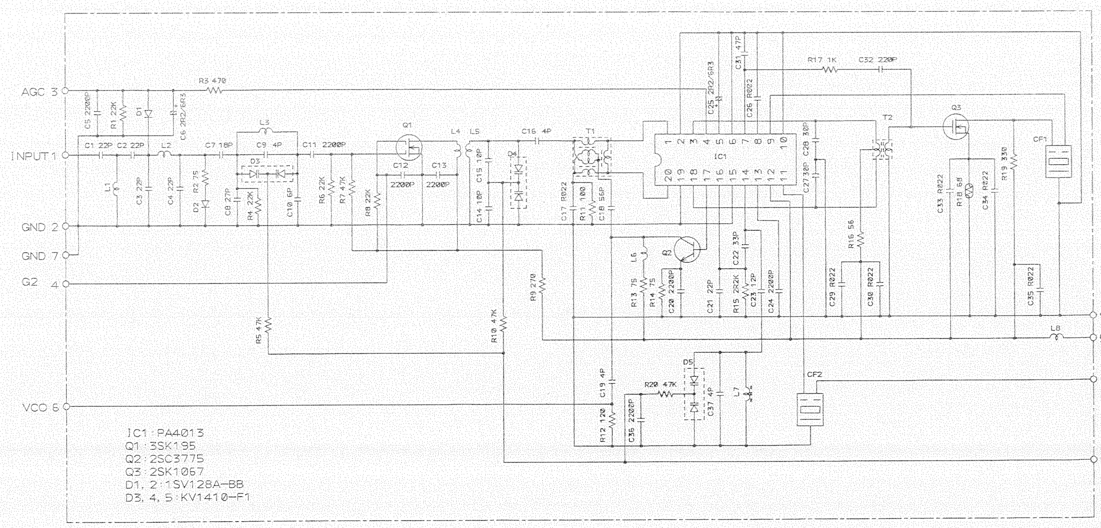

AGC 3
INPUT 1
GND 2
GND 7
G2 4
VCC 6
9 GND
5 VCC
10 OUTPUT
8 TV
R3 470
IC1
IC1 : PA4013
Q1 : 3SK195
Q2 : 2SC3775
Q3 : 2SK1067
D1, 2 : 1SV128A-BB
D3, 4, 5 : KV1410-F1

Fig. 34

• FM FONT END (CWB1039)
KEX-M800/ES, KEX-M800/UC

NOTE
:Chip Resistor
:Chip Capacitor
:Chip Diode
:Chip Transistor

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

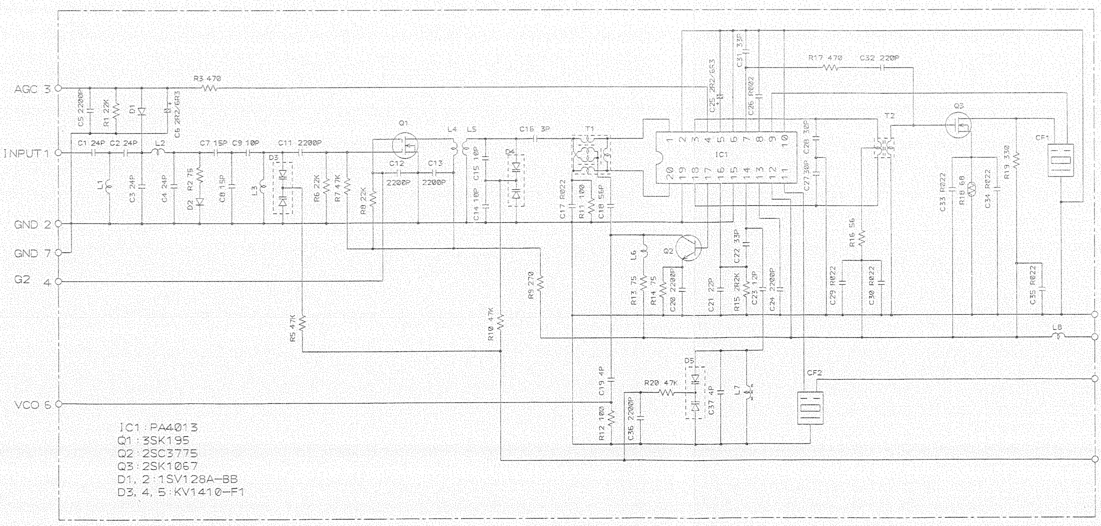
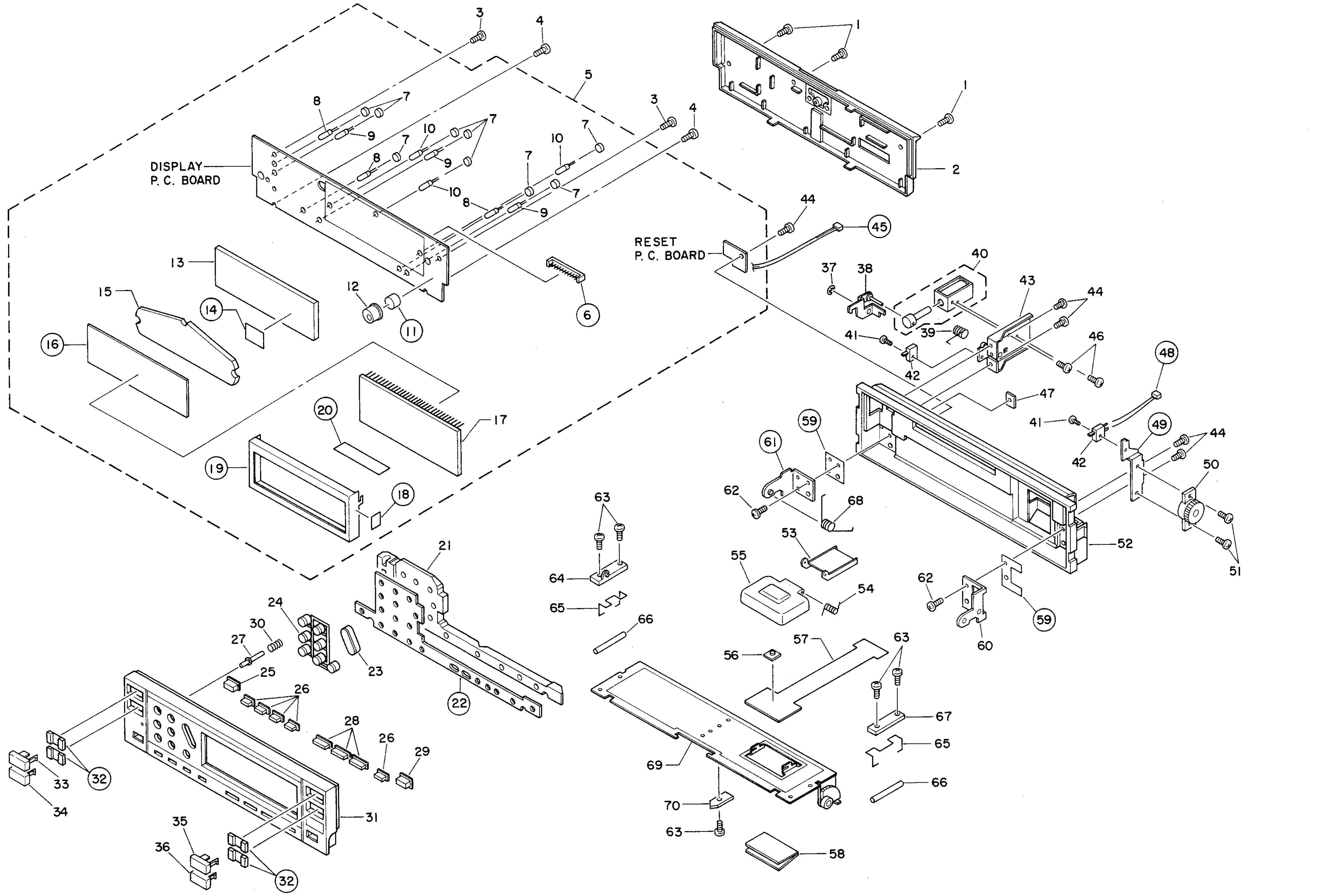

AGC 3
INPUT 1
GND 2
GND 7
G2 4
VCO 6
9 GND
5 VCC
10 OUTPUT
8 TV
R3 470
IC1
IC1 : PA4013
Q1 : 3SK195
Q2 : 2SC3775
Q3 : 2SK1067
D1, 2 : 1SV128A-BB
D3, 4, 5 : KV1410-F1

Fig. 35

19. HOLDER ASSY AND GRILLE ASSY EXPLODED VIEW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DISPLAY P. C. BOARD
RESET P. C. BOARD
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Fig. 36

- Parts List

Mark	No.	D
	1	S
	2	C
	3	S
	4	S
◉	5	D
◉		D
	6	P
	7	S
★★	8	L
★★	9	L
★★	10	L
	11	I
★★	12	I
	13	H
	14	F
	15	L
	16	P
	17	L
	18	F
	19	H
	20	I
	21	L
	22	C
★	23	B
★	24	B
★	25	B
★	26	B
★	27	B
★	28	B
★	29	B
	30	S
	31	G
		G
		G
		G
	32	C
★	33	B
★	34	B
★	35	B
★	36	B

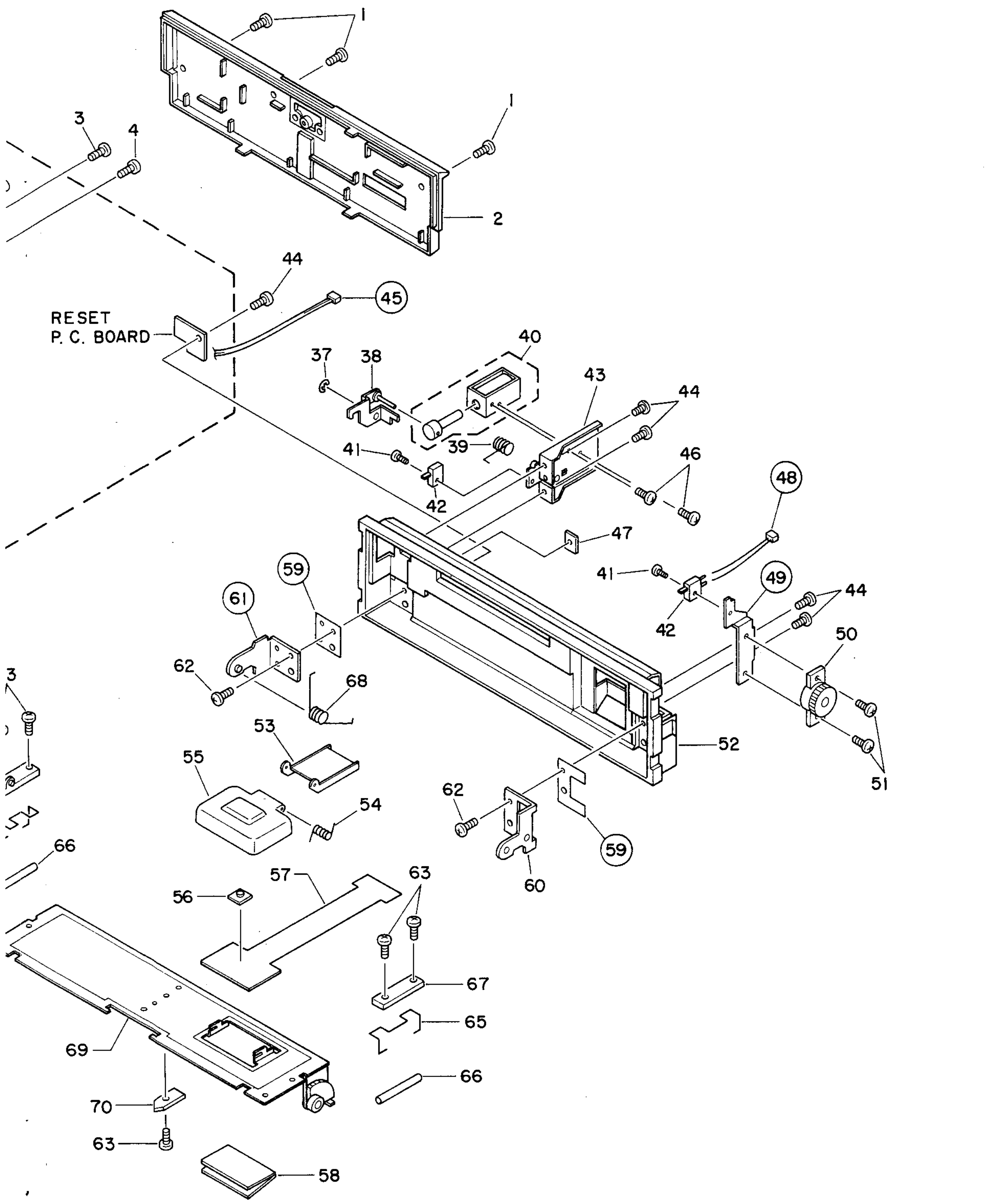
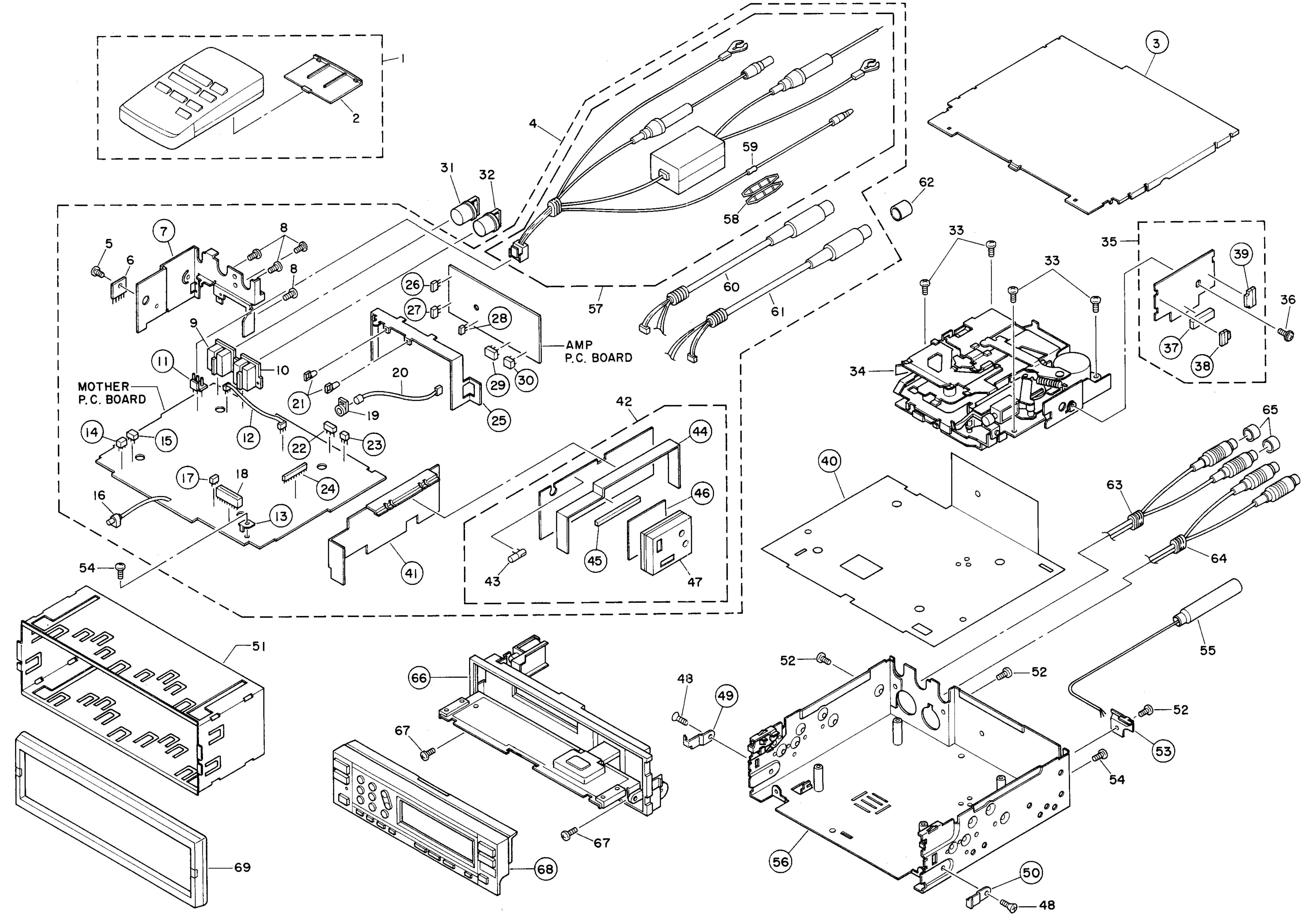


Fig. 36

- **Parts List**

Mark	No.	Description	Part No.
	1	Screw	CBA1126
	2	Cover Unit	CXA2838
	3	Screw	BPZ20P060FMC
	4	Screw	BPZ20P080FMC
◉	5	Display Unit (WG, EW)	CWS1138
◉		Display Unit (ES, UC)	CWS1144
	6	Plug	
	7	Spacer	CNW-662
★★	8	Lamp	CEL1013
★★	9	Lamp (WG, EW)	CEL-147
★★	10	Lamp	CEL1112
	11	Insulator	
★★	12	IC	BX-1393
	13	Housing	CNV2147
	14	Film	
	15	Lens	CNV2145
	16	Plate	
	17	LCD	CAW1042
	18	Film	
	19	Holder	
	20	Insulator	
	21	Lens	CNV2143
	22	Cushion	
★	23	Button	CAC2058
★	24	Button	CAC2051
★	25	Button	CAC2050
★	26	Button	CAC2059
★	27	Button	CAC2064
★	28	Button	CAC2060
★	29	Button	CAC2063
	30	Spring	CBH1275
	31	Grille Unit (WG)	CXA2833
		Grille Unit (EW)	CXA2834
		Grille Unit (ES)	CXA2836
		Grille Unit (UC)	CXA3022
	32	Cushion	
★	33	Button	CAC2048
★	34	Button	CAC2049
★	35	Button	CAC2061
★	36	Button	CAC2062
	37	E Type Washer	YE15FUC
	38	Arm Unit	CXA2658
	39	Spring	CBH1260
★	40	Solenoid	CXP1009
	41	Screw	PMZ20P050FMC
★★	42	Switch	CSN1012
	43	Bracket Unit	CXA2657
	44	Screw	BPZ20P050FMC
	45	Connector	
	46	Screw	BMZ20P025FMC
★	47	Button	CAC2000
	48	Connector	
	49	Holder	
	50	Damper Unit	CXD-766
	51	Screw	PMZ20P030FMC
	52	Grille Unit	CXA2901
	53	Door	CNV2051
	54	Spring	CBH1217
	55	Holder Unit	CXA2902
★★	56	Switch	CSG1033
	57	P.C. Board	CNP2117
	58	Socket	CKS1664
	59	Cushion	
	60	Holder Unit	CXA2661
	61	Holder	
	62	Screw	BPZ20P060FZK
	63	Screw	CBA1082
	64	Holder	CNV2050
	65	Spring	CBH1259
	66	Roller	CLA1706
	67	Holder	CNV2141
	68	Spring	CBH1216
	69	Holder Unit	CXA3082
	70	Guide	CNV2052

20. CHASSIS EXPLODED VIEW



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AMP
P.C. BOARD
MOTHER
P.C. BOARD

Fig. 37

- **Parts List**

NOTE:

- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★: GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Mark	No.	Description	Part No.
	1	Remote Control Assy (WG, EW)	CXA2860
		Remote Control Assy (ES)	CXA2958
		Remote Control Assy (UC)	CXA3090
	2	Cover	CZN3224
	3	Case	
◉	4	Audio Tuner Unit (WG)	CWM1879
◉		Audio Tuner Unit (EW)	CWM1881
◉		Audio Tuner Unit (ES)	CWM1996
◉		Audio Tuner Unit (UC)	CWM1885
	5	Screw	BMZ30P060FMC
★★	6	IC	TA8214K
	7	Holder (WG, EW)	
		Holder (ES, UC)	
	8	Screw	BMZ20P060FMC
	9	Connector	CKS1144
	10	Connector	CKS1156
	11	Plug (WG, EW)	
		Plug (ES, UC)	
	12	Connector	
	13	Holder	
	14	Plug	
	15	Plug	
★★	16	Lamp	CEL-148
	17	Plug	
	18	Plug	CKS1437
	19	Holder	CNV2196
	20	Microphone Assy	CPM1003
	21	Clamper	
	22	Plug	
	23	Plug	
	24	Connector	
	25	Holder	
	26	Plug (WG, EW)	
		Plug (ES, UC)	
	27	Plug (WG, EW)	
		Plug (ES, UC)	
	28	Connector	
	29	Connector	
	30	Connector	
	31	Cap	CNV1468
	32	Cap	CNV1308
	33	Screw	BMZ26P050FMC
◉	34	Cassette Mechanism Assy	EXK1430
◉	35	Mechanism Control Unit	CWM1968
	36	Screw	CBA1022
	37	Connector	
	38	Connector	
	39	Connector	
	40	Insulator	
	41	Shield Plate Unit	
◉	42	FM/AM Tuner Unit (WG, EW)	CWE1146
◉		FM/AM Tuner Unit (ES)	CWE1147
◉		FM/AM Tuner Unit (UC)	CWE1145
	43	Antenna Jack	CKX1010
	44	Chassis	
	45	Plug	
	46	Insulator	
	47	FM Front End (WG, EW)	CWB1037
		FM Front End (ES, UC)	CWB1039
	48	Screw	CMZ30P050FMC
	49	Holder	
	50	Holder	
	51	Holder	CNC1484
	52	Screw	BMZ30P050FMC
	53	Holder	
	54	Screw	BMZ26P040FMC
	55	Antenna Cable	CDH1093
	56	Chassis Unit (WG)	
		Chassis Unit (EW, ES, UC)	
	57	Cord (WG, EW)	CDE2455
		Cord (ES, UC)	CDE2361
	58	Resistor	RS1/2P102JL
	59	Cap	CNS1472
	60	DIN Connector Cord (REAR) (WG, EW))	CDE2358
	61	DIN Connector Cord (FRONT) (WG, EW)	CDE2357
	62	Cap (WG, EW)	CNV1455
	63	Connector (FRONT) (ES, UC)	CDE2360
	64	Connector (REAR) (ES, UC)	CDE2491
	65	Cap (ES, UC)	CNW-829
	66	Holder Assy	
	67	Screw	BMZ30P060FBK
	68	Grille Assy (WG)	
		Grille Assy (EW)	
		Grille Assy (ES)	
		Grille Assy (UC)	
	69	Panel	CNS1690

21. CASSETTE MECHANISM ASSY EXPLODED VIEW

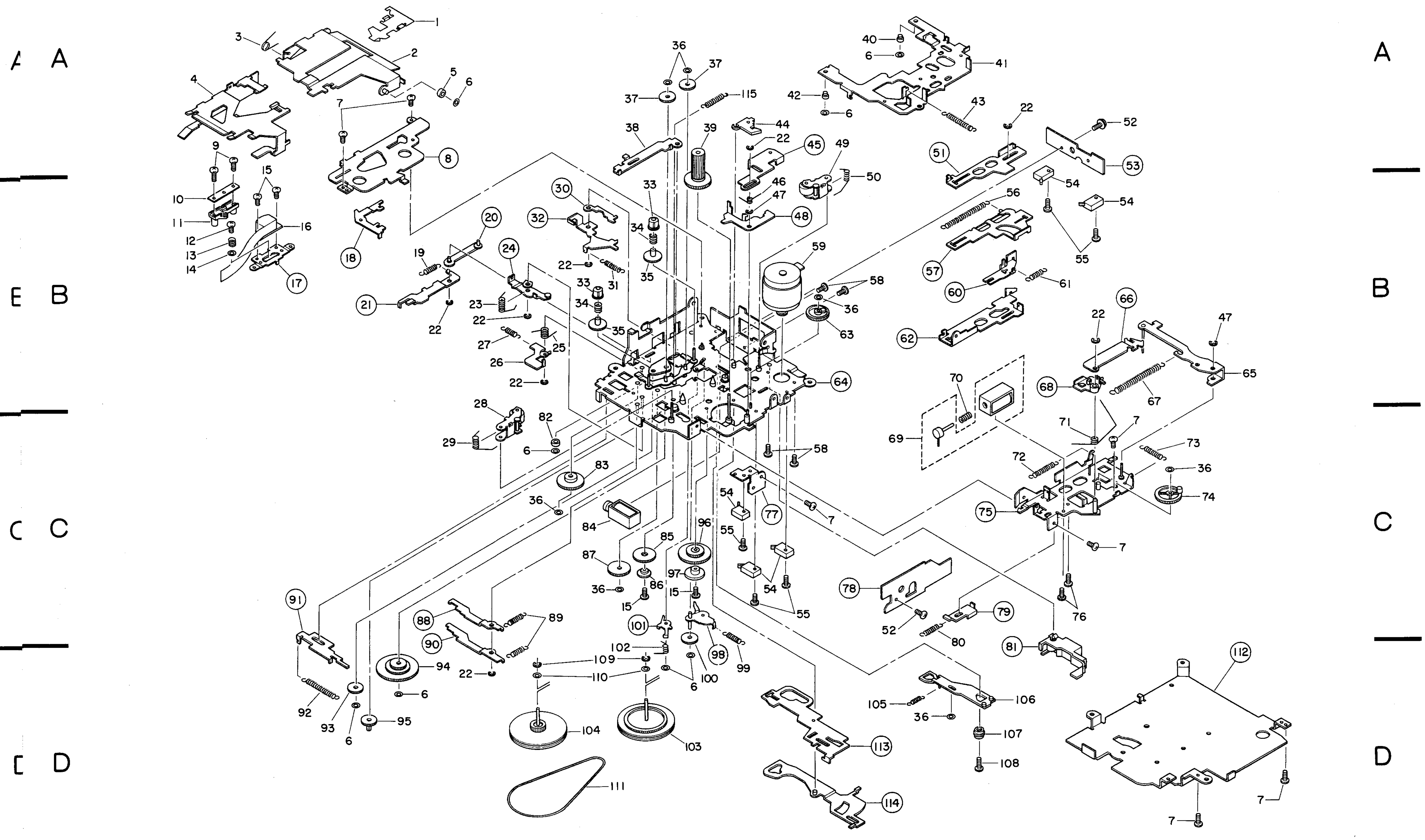
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Fig. 38

• Parts List

Mark	No.	Description	Part No.
	1	Lever	ENV1124
	2	Arm Unit	EXA1081
	3	Spring	EBH1152
	4	Cassette Holder	ENC1165
	5	Roller	ELA1148
	6	Washer	CBF1037
	7	Screw	BMZ20P030FMC
	8	Cover	
	9	Screw	EBA1016
	10	Spring	EBL1011
	11	Spacer	ENV1105
	12	Screw	BMZ20P025FMC
	13	Spring	EBH1145
	14	Washer	EBE1005
	15	Screw	HBA-175
★★	16	Head Unit	EXA1088
	17	Arm	
	18	Arm	
	19	Spring	EBH1143
	20	Lever Unit	
	21	Arm	
	22	Washer	YE15FUC
	23	Spring	EBH1154
	24	Arm Unit	
	25	Spring	EBH1138
	26	Arm	ENV1122
	27	Spring	EBH1142
★★	28	Pinch Roller Unit	EXA1073
	29	Spring	EBH1134
	30	Arm	
	31	Spring	EBH1144
	32	Arm	
	33	Collar	ENV1117
	34	Spring	EBH1155
★★	35	Gear	ENV1116
	36	Washer	CBF1038
	37	Gear	ENV1115
	38	Lever Unit	EXA1074
	39	Gear	ENV1107
	40	Roller	ELA1146

Mark	No.	Description	Part No.
	41	Head Base Unit	EXA1071
	42	Roller	ELA1147
	43	Spring	EBH1131
	44	Arm	ENV1121
	45	Lever Unit	
	46	Spring	EBH1153
	47	Washer	YE20FUC
	48	Arm	
★★	49	Pinch Roller Unit	EXA1072
	50	Spring	EBH1133
	51	Lever	
	52	Screw	CBA1076
	53	P.C.Board	
★★	54	Switch	CSN1005
	55	Screw	CBA1070
	56	Spring	EBH1147
	57	Lever	
	58	Screw	PMS20P025FMC
★★	59	Motor Unit	EXA1089
	60	Lever	
	61	Spring	EBH1149
	62	Lever	
	63	Gear	ENV1106
	64	Chassis Unit	
	65	Arm Unit	EXA1082
	66	Arm	
	67	Spring	EBH1146
	68	Clamper	
★	69	Solenoid	EXP1004
	70	Spring	EBH1157
	71	Spring	EBH1151
	72	Spring	EBH1148
	73	Spring	EBH1135
	74	Gear	ENV1118
	75	Guide Unit	
	76	Screw	PMS20P022FUC
	77	Bracket	
	78	P.C.Board	
	79	Arm	
	80	Spring	EBH1158

Mark	No.	Description	Part No.
	81	Clamper	
	82	Roller	ELA1149
	83	Gear	ENV1111
★	84	Solenoid	EXP1003
	85	Gear	ENV1109
	86	Collar	ELA1152
	87	Gear	ENV1110
	88	Arm	
	89	Spring	EBH1136
	90	Arm	
	91	Lever	
	92	Spring	EBH1137
	93	Gear	ENV1112
	94	Gear Unit	EXA1083
	95	Gear	ENV1113
	96	Gear	ENV1108
	97	Collar	ELA1151
	98	Arm Unit	
	99	Spring	EBH1141
	100	Gear	ENV1114

Mark	No.	Description	Part No.
	101	Arm	
	102	Spring	EBH1140
	103	Flywheel	ENV1127
	104	Flywheel	ENV1128
	105	Spring	EBH1159
	106	Arm	ENV1119
	107	Collar	ELA1150
	108	Screw	HBA-183
	109	E Type Washer	CBG1003
	110	Washer	HBF-179
★★	111	Belt	ENT1011
	112	Cover	
	113	Lever	
	114	Arm Unit	
	115	Spring	EBH1139

22. ELECTRICAL PARTS LIST

NOTE:

- *For your parts Stock Control, the fast moving items are indicated with the marks ** and *.*
  *** : GENERALLY MOVES FASTER THAN *.*
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*
  Chip Resistor
  RS1/8S□□□J, RS1/10S□□□J
  Chip Capacitor (except for CQS.....)
  CKS....., CCS....., CSZS.....

Audio Tuner Unit

Consists of
- Amp P.C.Board
- Mother P.C.Board

Unit Number :
Unit Name : Audio Tuner Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 301		HA12088ANT
**	IC 451		KHA159A
**	IC 501 (WG)		KHA142
**	IC 502 (WG)		CWW1091
**	IC 503		LC7218
**	IC 504		TC4069UBP
**	IC 551		PM2002
**	IC 701		PD4188
**	IC 702		S-8053ANO
**	IC 703		TA8214K
**	Q 301 302		DTC143ES
**	Q 451 452	Chip Transistor	2SC2712
**	Q 501 (WG)		2SC2458
**	Q 502 503 504 513 514 601 602 603		2SC2458
**	Q 505		2SK330
**	Q 506 507		2SA1150
**	Q 508		UN4122
**	Q 510 (EW, UC)		DTC114ES
**	Q 510 (ES) 511 (ES) 604 (ES)		UN4211
**	Q 511 (WG, EW, UC) 604 (WG, EW, UC)		DTC114ES
**	Q 512 (WG, EW)		DTC124ES
**	Q 551		2SK184
**	Q 552	Chip Transistor	2SC2712
**	Q 605 606 607 608 609 610		DTC343TS
**	Q 611		DTA114TS
**	Q 701		2SA1048
**	Q 702 705 754 755 761 772 802		2SC2458
**	Q 704 (WG, EW, UC)		DTC124ES
**	Q 704 (ES)		UN4212
**	Q 706 707		DTC314TS
**	Q 708		2SC1545F
**	Q 710 803		DTA114TS
**	Q 750 764		DTC144TS
**	Q 751 759 770		UN4122
**	Q 752 (WG, EW, UC) 758 (WG, EW, UC)		DTC114ES
**	Q 752 (ES) 758 (ES)		UN4211
**	Q 753 757 762		2SB1243
**	Q 756 (WG, EW)		UN4122
**	Q 760 763 801		DTC143TS
**	Q 765 766		2SD1859
**	Q 767 (WG, EW)		DTC143TS
**	Q 768 (WG, EW) 769 (WG, EW)		2SB1243
**	Q 771		DTA124ES
**	Q 773		2SB945
**	Q 851 852 853 854		2SA1048
**	Q 855 856 857 858	Chip Transistor	DTC343TK
**	Q 859 860	Chip Transistor	2SC2712
*	D 451 452		RD5R1JSB2
*	D 501 (WG) 502 (WG)		1SS133
*	D 503 504 505 506 507 601 604 605		1SS133
*	D 509		RD2R7ESB1
*	D 551 552 606 607		1SS133
*	D 651		ERC05-10B
*	D 701 (ES)		1SS133
*	D 703 704 708 709 757 802 803		1SS133
*	D 706 (WG, UC)		1SS133
*	D 707 (WG)		1SS133
*	D 750 (WG, EW)		RD7R5JSB2
*	D 751 752		RD7R5JSB2
*	D 753 754 755		ERA15-02VH

ark	Circuit Symbol & No.	Part Name	Part No.
*	D 756		RD5R6JSB2
*	D 759		RD6R2JSB3
*	D 760		RD9R1JSB3
*	D 761(ES.UC)		ERA15-02VH
*	D 801		RD8R2JSB2
*	D 851 852	Chip Diode	MA151WA-MN
*	D 853 854	Chip Diode	MA3075M
	L 501	Ferri-Inductor	LAU101K
	L 502	Ferri-Inductor	LAU220K
	L 503	Inductor	LAUR22M
	L 504 505 506	Ferri-Inductor	LAU1R0M
	L 701	Choke Coil	LAU2R7M
	L 750 751 752	Inductor	LAU150K
	L 753(WG.EW)	Inductor	LAU150K
	T 301 302	Coil	CTF1072
	CG 701	Trimmer	CCG1002
	IB 701		CWW1280
	IB 702		CWW1290
	IB 703		CWW1293
	IB 704		CWW1276
	IB 705		CWW1185
	IB 706		CWW1128
	IB 707		CWW1291
	IB 708		CWW1292
	G 750	Surge Absorber	ERZ-C07DK220
	X 501	Crystal Resonator	CSS1030
	X 502(WG)	Ceramic Resonator	CSS1019
	X 701	Crystal Resonator	CSS1023
	X 702	Buzzer	CPV1006
**	IL 701	Lamp 14V 40mA	CEL-148
**	VR 301 302	Semi-fixed 33kΩ (B)	CCP-381
**	VR 551 552	Semi-fixed 10kΩ (B)	VRTB6VS103
	MIC551	Microphone Assy	CPM1003
		FM/AM Tuner Unit(WG.EW)	
		FM/AM Tuner Unit(ES)	
		FM/AM Tuner Unit(UC)	

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 301 302	1kΩ (1/6W)	CCN1015
	R 303 304	3.3kΩ (1/6W)	CCN1016
	R 305	20kΩ (1/6W)	CCN1018
	R 306 307		RS1/10S101J
	R 308		RS1/10S332J
	R 309 528 536 802		RS1/10S472J
	R 310		RS1/10S682J
	R 311		RS1/8S683J
	R 312		RS1/10S683J
	R 451 452		RS1/10S222J
	R 453 454		RS1/10S563J
	R 455(WG.EW) 456(WG.EW)		RS1/10S0R0J
	R 455(ES.UC) 456(ES.UC)		RS1/10S472J
	R 457(ES.UC) 458(ES.UC)		RS1/10S332J
	R 501 502 503 504		RS1/10S681J
	R 505 506 542 601 602		RS1/10S102J
	R 507		RS1/10S152J
	R 508(WG)		RS1/10S222J
	R 509 510 511 515 539 630		RS1/10S222J
	R 512(WG)		RS1/10S472J
	R 513 514 722 753		RS1/10S223J
	R 516		RS1/10S393J
	R 517 518 519 520 619 620 621 622 623 624		RS1/10S473J
	R 521(WG) 527(WG) 545(WG)		RS1/10S473J
	R 522		RS1/10S472J
	R 523 537 538 625		RS1/10S103J
	R 524 541 553 556 557 558 562 572		RS1/10S472J
	R 525 526 534		RS1/10S473J
	R 529 530		RS1/10S104J
	R 531 532		RS1/10S474J
	R 533(WG)		RS1/10S474J
	R 543		RS1/10S0R0J
	R 544(WG)		RS1/10S471J
	R 551 561 565 574		RS1/10S103J
	R 552		RS1/10S474J
	R 554 555		RS1/10S153J
	R 559		RS1/10S684J
	R 560		RS1/10S682J
	R 563		RS1/10S683J
	R 564		RS1/10S471J
	R 566		RS1/10S222J
	R 567(WG.EW) 568(WG.EW) 569(WG.EW) 570(WG.EW)		RS1/10S393J
	R 567(ES.UC) 568(ES.UC) 569(ES.UC) 570(ES.UC)		RS1/10S153J
	R 571		RS1/10S154J
	R 573		RS1/10S104J
	R 575		RS1/10S183J
	R 576		RS1/10S562J
	R 603 604 613 614		RS1/10S102J
	R 605 606		RS1/10S222J
	R 615 616		RS1/10S122J
	R 617 618		RS1/10S183J
	R 701		RS1/10S153J
	R 702 723 738 778 779 803		RS1/10S104J
	R 703 704 719 720 721 734		RD1/4PS681JL
	R 705 706 708 712 713 714 715 771		RS1/10S102J
	R 707(WG)		RS1/10S102J
	R 707(EW.ES.UC)		RS1/10S103J
	R 709		RS1/10S474J
	R 710 731		RD1/4PS471JL
	R 711 759 762 765 801		RS1/10S103J
	R 716 717		RS1/10S681J
	R 718		RS1/10S682J
	R 724		RS1/10S124J
	R 725 754 767		RD1/4PS102JL
	R 726 727 728 729 751		RD1/4PS103JL
	R 732		RS1/10S472J
	R 733 735 766 768 804		RD1/4PS473JL
	R 736(WG.EW)		RS1/10S0R0J
	R 737(ES.UC)		RS1/10S0R0J
	R 739		RS1/10S103J
	R 740		RS1P101JL
	R 742		RS1/10S473J
	R 752		RD1/4PS222JL
	R 755(WG.EW) 756(WG.EW) 788(WG.EW)		RS1/10S472J
	R 757 758 761 763 764		RS1/10S473J
	R 760		RN1/2P471JL
	R 769		RS1P100JL
	R 772(WG.EW) 773(WG.EW) 775(WG.EW)		RD1/4PS102JL
	R 772(ES.UC)		RD1/4PS0R0JL
	R 774(ES.UC)		RD1/4PS102JL

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 776 (WG, EW)		RD1/4PS223JL
	R 777 787		RD1/4PS472JL
	R 780 781		RS1/10S273J
	R 782 783		RS1/10S393J
	R 784 785 859 860 861 862		RS1/10S473J
	R 786		RS1/8S102J
	R 789 (ES, UC)		RD1/4PS472JL
	R 790 (ES, UC) 794 (ES, UC)		RS1/10S472J
	R 791 (ES, UC)		RS1/10S471J
	R 792 793		RS1/10S472J
	R 851 852 853 854		RS1/10S221J
	R 855 (WG, EW) 856 (WG, EW) 857 (WG, EW) 858 (WG, EW)		RS1/10S393J
	R 855 (ES, UC) 856 (ES, UC) 857 (ES, UC) 858 (ES, UC)		RS1/10S123J
	R 863 (WG, EW) 864 (WG, EW) 865 (WG, EW) 866 (WG, EW)		RS1/10S102J
	R 863 (ES, UC) 864 (ES, UC) 865 (ES, UC) 866 (ES, UC)		RS1/10S820J
	R 867 (WG, EW) 868 (WG, EW) 869 (WG, EW) 870 (WG, EW)		RS1/10S471J
	R 867 (ES, UC) 868 (ES, UC) 869 (ES, UC) 870 (ES, UC)		RS1/10S561J
	R 871 (WG, EW) 872 (WG, EW) 873 (WG, EW) 874 (WG, EW)		RS1/10S471J
	R 871 (ES, UC) 872 (ES, UC) 873 (ES, UC) 874 (ES, UC)		RS1/10S391J
	R 875 876 877 878		RS1/10S223J
	R 879 880		RS1/10S102J
	R 881 (WG, EW)		RS1/10S103J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 301	470μF/10V	CCH1019
	C 302	470μF/6.3V	CCH1013
	C 303 304 305 306		CEAR68M50LS2
	C 307 308 309 310		CEA010M50LS2
	C 311 312 313 314		CEA2R2M50LS2
	C 315 316		CEA4R7M35LS
	C 317 318 762		CEA100M16LS2
	C 319		CEA220M16LS
	C 320 321 322 323		CQPA103G2A
	C 324 325 326 327		CKSQYB183J50
	C 328 329		CKSQYB823J25
	C 451		CEA470M6R3LS
	C 452		CEA470M16L2
	C 453 454		CEA331M6R3L2
	C 455		CEA221M10L2
	C 501 (WG)		CEAR33M50LS2
	C 502 (WG, EW)		CEAR47M50LS2
	C 503 (WG)		CEA4R7M35LS
	C 504 (WG)		CEA100M16LS2
	C 505 (WG)		CEA101M10LS
	C 506 (WG) 507 (WG)		CEA470M16LS
	C 508	4.7μF/16V	CCH1005
	C 509 (WG)		CKSQYB103K50
	C 510 514 522		CKSQYB103K50
	C 513 720		CKSYF104Z25
	C 515		CKSQYB223K50
	C 516 517 527 532 536 538 539 769		CKSQYF473Z50
	C 518 (WG)		CQEA683J50
	C 519		CCSQCH180J50
	C 520		CCSQCH270J50
	C 528 530 534 535		CKSQYF473Z50
	C 531 702 704		CKSQYB471K50
	C 551 552 553 568		CEA470M16L2
	C 554 566		CEA220M6R3LS
	C 555 556		CEA100M10NPLL
	C 557		CQMA823J50
	C 558 563		CEAR68M50LS2
	C 559		CEA220M10NPLL
	C 560 562		CEA100M16LS2
	C 561		CEA470M6R3LS
	C 564		CEA470M16LS
	C 565 (WG, EW)		CEA100M16LS2
	C 565 (ES, UC)		CEA220M6R3LS
	C 567		CEA101M10LS
	C 601 602		CEAR33M50LS2
	C 603 604 713 714		CEA2R2M50LS2
	C 605 606 711 712		CEA010M50LS2
	C 607		CEA221M10L2
	C 701 703 715 751 752 757 759 765		CKSQYF473Z50
	C 705		CEA2R2M50LS2
	C 706		CCSQCH330J50
	C 707		CKSYF104Z25
	C 708 710 716 717		CEA470M16L2
	C 709		CEA221M10L2
	C 750 (WG, EW)		CKSQYB223K50
	C 753		CEA470M16LS
	C 754		CKSYB103K50
	C 755		CEA332M16L2
	C 756 758 768		CEA220M16LS
	C 763 766		CEA101M10LS
	C 764		CEA470M16L2
	C 767		CCG-081
	C 801		CEA010M50LS2
	C 851 (WG, EW) 852 (WG, EW) 853 (WG, EW) 854 (WG, EW)		CEA4R7M35LS
	C 851 (ES, UC) 852 (ES, UC) 853 (ES, UC) 854 (ES, UC)		CEA100M16LS2
	C 855 (WG, EW) 856 (WG, EW) 857 (WG, EW) 858 (WG, EW)		CEA2R2M50LS2
	C 855 (ES, UC) 856 (ES, UC) 857 (ES, UC) 858 (ES, UC)		CEA4R7M35LS
	C 859 860 861 862		CKCYB102K50
	C 863 (WG, EW)		CKCYB102K50
	C 864 (WG, EW)		CKSQYB102K50
	C 865 866		CEA330M10LS
	C 867 868		CEA101M10LS

Unit Number :
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 51		LA11408
**	IC 101		KHA146
**	IC 201		PA4010
**	Q 1 203 205	Chip Transistor	DTC124EK
**	Q 51 202	Chip Transistor	2SC2712
**	Q 71	Chip Transistor	2SJ106
**	Q 201		2SK435
*	D 201 202 203 204		1SS133
*	D 205	Variable Capacitance Diode	SVC203-AB
	L 51	Inductor	LAU150K

Mark	Circuit Symbol & No.	Part Name	Part No.
	L 201(WG, EW)	Inductor	CTF1084
	L 201(ES, UC)	Ferri-Inductor	CTF1026
	L 203	Ferri-Inductor	LAU220K
	L 204	Ferri-Inductor	LAU470K
	L 205	Ferri-Inductor	LAU4R7K
	L 206	Ferri-Inductor	CTF-157
	T 51	Coil	CTC1029
	T 201	Coil	CTB1020
	T 202	Coil	CTB1004
	T 203	Coil	CTB1040
	T 204	Coil	CTE1025
	T 205	Coil	CTE1026
	T 206	Coil	CTE1027
	CG 1	Surge Protector	DSP-201M-S00B
	CF 51	Ceramic Filter	CTF-182
	CF 201	Ceramic Filter	CTF1041 (CTF1027)
	CF 202	Filter	CTF1085 (CTF-100)
	X 201	Crystal Resonator	CSS1014
**	VR 53	Semi-fixed 150kΩ(B)	VRTB4VS154
**	VR 152	Semi-fixed 6.8kΩ(B)	VRTB4VS682
**	VR 153	Semi-fixed 4.7kΩ(B)	VRTB4VS472
		FM Front End(WG, EW)	CWB1037
		FM Front End(ES, UC)	CWB1039

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 5 58 210		RS1/10S682J
	R 6 131		RS1/10S102J
	R 7 152		RS1/10S223J
	R 8 10		RS1/10S152J
	R 9		RD1/4PS151JL
	R 52		RS1/10S331J
	R 53 57 204 213		RS1/10S473J
	R 54 103		RS1/10S333J
	R 55 60 215		RS1/10S153J
	R 56		RS1/10S123J
	R 59(WG, EW, ES)		RS1/10S183J
	R 59(UC)		RS1/10S682J
	R 61 62 101		RS1/10S472J
	R 75		RS1/10S474J
	R 102		RS1/10S392J
	R 156(WG, EW) 157(WG, EW)		RS1/10S332J
	R 156(ES, UC) 157(ES, UC)		RS1/10S202J
	R 201		RS1/10S220J
	R 202		RS1/10S681J
	R 203 206 214		RS1/10S222J
	R 205 209		RD1/4PS470JL
	R 207		RS1/10S822J
	R 208 211 212		RS1/10S103J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 1 201 209 223 228		CKSQYB103K25
	C 2 3		CKSQYB102K50
	C 51 52 53 54 59 132 203 215 216 219		CKSQYF473Z50
	C 55 62		CCSQSL330J50
	C 56 63		CEAR47M50LS2
	C 57		CKSYB683K25
	C 58		CEA010M50LS2
	C 60		CCSQSL101J50
	C 61		CEA4R7M16NPLL
	C 70		CCSQCH200J50
	C 103		CEA150M16LS
	C 105 224		CEA470M16LS
	C 154		CKSQYB153K25
	C 159(WG, EW) 160(WG, EW)		CKSQYB183K25
	C 159(ES, UC) 160(ES, UC)		CKSQYB393K25
	C 161		CEA101M10LS
	C 202 212		CKSQYB332K50
	C 204 208 210		CKSQYB223K25
	C 205		CCSQCH220J50
	C 206 207		CCSQCH820J50
	C 211		CEA2R2M50LS2
	C 213		CCSQCH470J50
	C 218		CEA2R2M35NPLL
	C 220		CCSQCH430J50
	C 221		CCSQCH100D50
	C 222		CSZA010K35L
	C 225		CKSQYB333K25
	C 226		CKSQYF473Z50
	C 227		CEA4R7M35LS
	C 229		CEA470M16LS
	C 230		CEA220M16LS

Unit Number :
Unit Name : Mechanism Control Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 1		BA3430FS
**	Q 1	Chip Transistor	2SC4116
**	Q 2	Chip Transistor	DTC143ZU
**	Q 3	Chip Transistor	DTBL13ZP
**	Q 4 6	Chip Transistor	2SC3295
**	Q 5 7	Chip Transistor	2SB1441JU

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 1 2 3 4		RS1/10S153J
	R 5 6 13		RS1/10S181J
	R 7 8		RS1/10S334J
	R 9 10		RS1/10S133J
	R 11 12		RS1/10S183J
	R 14		RS1/10S270J
	R 15		RS1/10S823J
	R 16 21 26		RS1/10S473J
	R 17		RS1/10S333J
	R 18 19		RS1/10S224J
	R 20 24 25 29		RS1/10S103J
	R 22 23 27 28		RS1/8S221J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 1 2 3 4		CKSQYB391K50
	C 5 6	22μF/6.3V	CCH1065
	C 7 8 14		CKSQYB103K50
	C 9		CKSQYB152K50
	C 10 12		CKSYB104K25
	C 11	6.8μF/25V	CCH1066
	C 13	100μF/6.3V	CCH1067
	C 15 16	4.7μF/25V	CCH1064

Display Unit

Consists of
- Display P.C. Board
- Reset P.C. Board

Unit Number :
Unit Name : Display Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 901		S-80740AH
**	IC 902		BX-1393
**	IC 903		LC7582P
**	IC 904		PD4189
**	Q 901	Chip Transistor	DTC144EK
**	Q 902	Chip Transistor	2SC2712
*	D 901 903 904 905	Chip Diode	MA153-MC
*	D 909 910	LED	LN12C56
	L 901	Ferri-Inductor	LAU101K
	X 901	Ceramic Resonator	CSS1050
**	S 901 902 903 904 905 906 907 908 909 910	Switch	CSG-253
**	S 911 912 913 914 915 916 917 918 919 920	Switch	CSG-253
**	S 921 922 923 924	Switch	CSG-253
**	IL 901 902 903	Lamp 8V 60mA	CEL1112
**	IL 904(WG, EW) 905(WG, EW) 906(WG, EW)	Lamp 14V 40mA	CEL-147
**	IL 907 908 909	Lamp 14V 40mA	CEL1013
		LCD	CAW1042

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 901 902 904 905		RD1/4PS103JL
	R 906		RD1/4PS333JL
	R 907		RS1/10S470J
	R 908		RS1/10S223J
	R 909		RS1/8S473J
	R 910 911		RS1/10S473J
	R 912(WG, EW) 913(WG, EW)		RS1/8S471J
	R 914 915 919 920 921		RS1/8S471J
	R 916		RS1/10S104J
	R 917 918 922 923 924 925 926 927		RS1/10S471J
	R 930		RS1/10S103J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 901 902		CEA470M6R3LS
	C 903		CKSQYB331K50
	C 904 905 906 907 908		CKSQYB152K50
	C 909		CKSQYB223K50
	C 910		CKSYB103K50
	C 911 912		CKSQYB103K50
	C 913 914		CCSQCH221J50

Unit Number :
Unit Name : Connector P.C.Board

Mark	Circuit Symbol & No.	Part Name	Part No.
*	D 1 2		F1SR35-100A
**	S 1 2 3	Switch(LOAD, END, F/R)	CSN1005

Unit Number :
Unit Name : Switch P.C.Board

Mark	Circuit Symbol & No.	Part Name	Part No.
**	S 1 2	Switch(METAL, PLAY)	CSN1005

Miscellaneous Parts List

Mark	Circuit Symbol & No.	Part Name	Part No.
**	S 1 2	Switch(CSENSE×2)	CSN1012
**	S 3	Switch(EJECT)	CSG1033
*	SO 1	Solenoid	CXP1003
*	SO 2	Solenoid	CXP1004
*	SO 3	Solenoid	CXP1009
**	HD 1	Head Unit	EXA1088
**	M 1	Motor Unit	EXA1089

23. PACKING METHOD

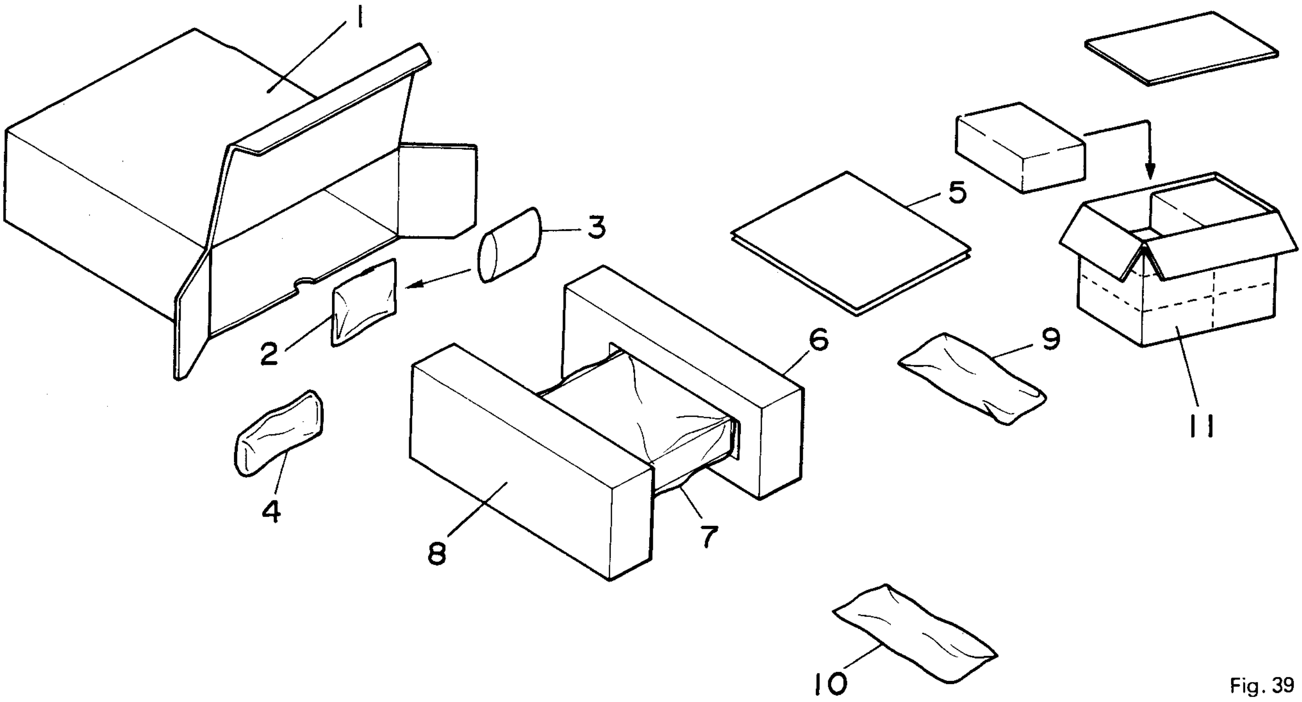


Fig. 39

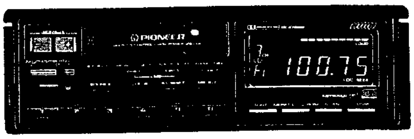
- **Parts List**

Mark	No.	Description	Part No.
	1	Carton (WG)	CHG1595
		Carton (EW)	CHG1594
		Carton (ES)	CHG1622
		Carton (UC)	CHG1593
	2	Remote Control Assy (WG, EW)	CXA2860
		Remote Control Assy (ES, UC)	CXA2958
	2-1	Cover	CZN3224
	3	Air Cushioned Bag	CEG1055
	4-1	Battery	CEX1006
	4-2	Fastener (Rough Surface)	CNM1716
	4-3	Fastener (Soft Surface)	CNM1717
	5-1	Owner's Manual (WG)	CRD1288
		Owner's Manual (EW) (English, French, German, Spanish)	CRD1286
		Owner's Manual (EW) (Swedish, Norwegian, Dutch, Finnish)	CRD1287
		Owner's Manual (ES)	CRD1300
		Owner's Manual (UC)	CRD1289
	5-2	Caution Card (WG, EW)	
		Caution Card (ES, UC)	
	5-3	Caution Card (WG)	
	5-4	Card (WG, EW)	
		Card (UC)	
	5-5	Passport (WG)	
	6	Styrofoam (R)	CHP1212
	7	Cover	CEG1043
	8	Styrofoam (L)	CHP1211
	9	Accessory Assy (WG, EW)	CEA1426
		Accessory Assy (ES, UC)	CEA1460
	9-1	Spring (× 2)	CBH-865
	9-2	Cord (× 1)	CDE1289
	9-3	Bush (× 1)	CNV1009
	9-4	Strap (× 1)	CNF-111
	9-5	Handle (× 2)	CNC1631
	9-6	Cap (× 2)	CNV2156
	9-7	Screw Assy	
	9-7-1	Screw (× 1)	CBA-102
	9-7-2	Screw (× 1)	CBA1002
	9-7-3	Screw (× 2)	CBA1116
	9-7-4	Nut (× 2)	NF50FMC
	9-7-5	Screw (× 1) (ES, UC)	HMF40P080FUC
	10	Panel	CNS1690
	11	Contain Box (UC)	CHL1593

PIONEER
The future of sound and vision.

Service Manual

- KEH-M7000B/EW



**ORDER NO.
CRT 1235**

MULTI-CD CONTROL FM/MW/LW TUNER DECK AMPLIFIER

KEH-M7000SDK WG
KEH-M7000B EW

Note:
- See the service manual KEX-M800 (CRT1234) for the cassette mechanism description.

SPECIFICATIONS

General

Power source	14.4 V DC (10.8−15.6 V allowable)
Grounding system	Negative type
Max. current consumption	7.5 A
Dimensions (chassis)	180(W) × 50(H) × 150(D) mm
(front face)	188(W) × 58(H) × 12(D) mm
Weight	1.6 kg

Amplifier

Maximum power output	25 W × 4 (EIAJ)
Continuous power output	13 W × 4 (1% dist. at 1 kHz)
Load impedance	4Ω (4−8Ω allowable)
Max. output level/ output impedance (per out)	250 mV/1 kΩ
Tone controls (bass)	± 10 dB (100 Hz)
(treble)	± 10 dB (10 kHz)
Loudness contour	+ 12 dB (100 Hz), + 7 dB (10 kHz) (volume: − 30 dB

Tape player

Tape	Compact cassette tape (C-30−C-90)
Tape speed	4.76 cm/sec. (+ 0.14 cm/sec., − 0.05 cm/sec.)
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.08% (WRMS)
Frequency response	Metal: 30−22,000 Hz (± 3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	Metal: Dolby C NR IN: 72 dB (IEC-A network) Dolby B NR IN: 66 dB (IEC-A network) Dolby NR OUT: 60 dB (IEC-network)

FM tuner

Frequency range	87.5−108 MHz
Usable sensitivity	11 dBf (1.0μV/75Ω, mono)
50 dB quieting sensitivity	16 dBf (1.7μV/75Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	30−15,000 Hz (± 3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range	531−1,602 kHz
Usable sensitivity	18μV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (± 9 kHz)

LW tuner

Frequency range	153−281 kHz
Usable sensitivity	30μV (30 dB) (S/N: 20 dB)
Selectivity	50 dB (± 9 kHz)

Note:
Specifications and the design are subject to possible modification without notice due to improvements.

- **Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.**

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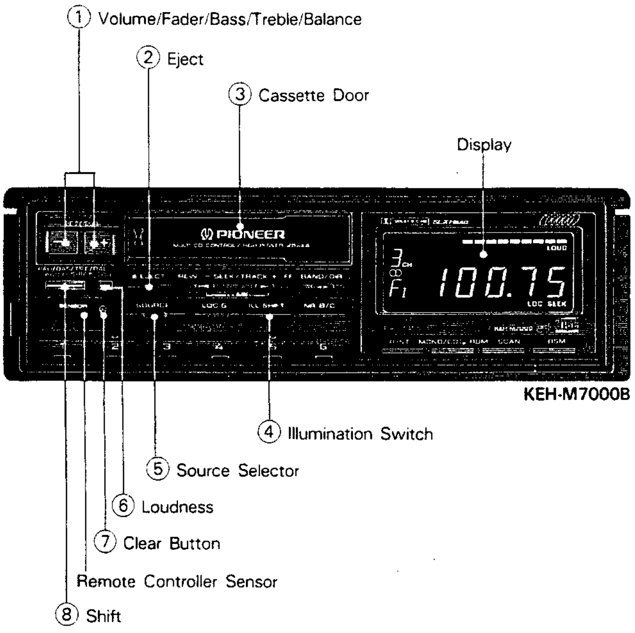
1. ADJUSTING VOLUME AND TONE



Using the Clear Button

Once all wiring is complete, press Button ⑦ with a thin, pointed object. Though not a normal occurrence, the microprocessor which controls the operation of this unit can be affected by electrostatic noise. This generally is indicated by such symptoms as no power being supplied when you switch the unit on, failure of buttons and controls, or an abnormal display. Should this happen, press Button ⑦ with a thin, pointed object to reset the microprocessor. Note that doing so also resets all audio controls, so you will have to make any desired settings again. This operation deletes all memory contents, such as frequencies stored in the preset memory, so you will have to make any desired settings again.

Switching Power On

Radio

Press Button ⑤ to switch the tuner power on. Press Button ⑤ again to switch the power off.

Tape

Insert the cassette tape through the Cassette Door ③, and the power will be automatically turned on to get the tape start being played back. To eject the tape, press the button ②.

- You will hear a few consecutive clicks from your unit when you have started the engine with the cassette tape inserted or when you have again mounted your unit on the Quick Release Mounting Bracket following dismounting. The sounds are only the sign of your unit's mechanical preparation being made, but does not indicate at all its functional failure.

Changing the Source

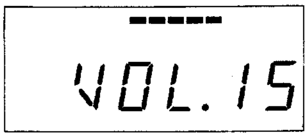
When the cassette tape is inserted, the source changes at each press of the button ⑤: Tape → Radio → OFF. When a Multi-Play CD player—optionally available Multi-Play CD Player CDX-M70, for example—is connected to your unit, the source changes: Multi-Play CD Player → Tape → Radio → OFF.

Adjusting Volume/Fader/Bass/Treble/Balance

To adjust volume, press the button ①. The display changes at each press of the button ⑧: Volume → Fader → Bass → Treble → Balance. Press the button ① to adjust the displayed mode.

Adjusting Volume

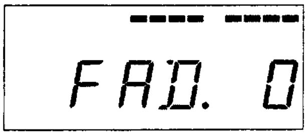
Pressing the (+) side of Button ① increases the volume, while the (−) side decreases it.



Adjusting the Fader

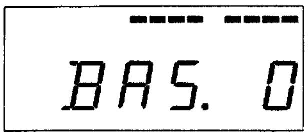
This function controls the balance between the front and rear speakers of a 4-speaker system. Pressing the (−) side of Button ① shifts the balance to the front speakers, while the (+) side shifts it to the rear speakers.

In the case of a 2-speaker system, set the display to "FAD.0". (In the case of a 4-speaker system the fader adjusts the balance between the front and rear pairs of speakers.) In the case of a 6-speaker system (4 speakers connected to this unit and 2 speakers connected to an external power amplifier connected to Pre-out), the front-rear balance is between the 2 front speakers and the rest.



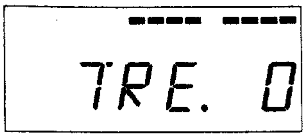
Adjusting Bass

Pressing the (+) side of Button ① increases bass, while the (−) side decreases bass.



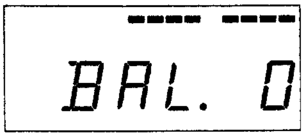
Adjusting Treble

Pressing the (+) side of Button ① increases treble, while the (−) side decreases treble.



Adjusting Balance

Pressing the (−) side of Button ① shifts the balance to the left speaker, while the (+) side shifts it to the right speaker.



- When you're adjusting fader, bass, treble or balance settings, the indicator will stop at the center setting. About 5 seconds after adjustment has been made, the display returns to its previous state.

Using the Loudness Function

Press Button ⑥ and the "**LOUD**" indicator will appear on the display. This "loudness" function enhances both the high and low ranges of sound to give even more power to output even at low volumes.

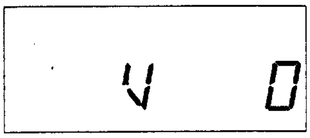
Switching Illumination Colour

Press Button ④ to switch illumination colour between green and amber. Pressing Clear Button ⑦ causes the illumination to be turned green.

Using Source Level Adjustor

You may wish to adjust volume when you have changed the source to radio, tape, or CD or when you have changed the radio band from FM to MW/LW. You can do so on the basis of the volume of FM as follows:

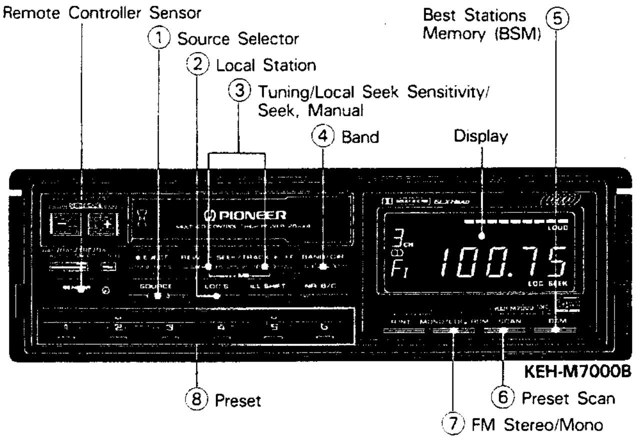
1. Use the button ⑤ to change the source. (In case of radio, change the band to MW/LW.)
2. Hold down the button ⑧ for about 2 seconds, and the display will show you the volume of the source.

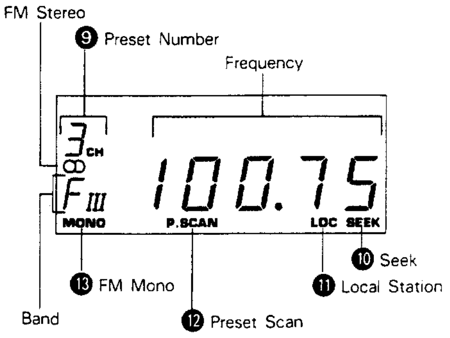


3. To increase the volume, press the (+) side of the button ①, and to decrease press the (−) side. You can adjust the volume within a span of V−4 and V+4. The display automatically returns to the previous showing when five seconds have elapsed after the adjustment.

- No adjustment can be made when an FM station is tuned in.

2. USING THE RADIO


Remote Controller Sensor
① Source Selector
② Local Station
③ Tuning/Local Seek Sensitivity/ Seek, Manual
④ Band
Display
Best Stations Memory (BSM) ⑤
PIONEER
100.75
KEH-M7000B
⑧ Preset
⑥ Preset Scan
⑦ FM Stereo/Mono


FM Stereo
❾ Preset Number
Frequency
3 CH
F III
100.75
MONO
P.SCAN
LOC
SEEK
❿ Seek
⓫ Local Station
⓬ Preset Scan
⓭ FM Mono
Band

1 Press Button ① to switch the radio power on.

2 Press Button ④ to select a band.

$F_{I} \rightarrow F_{II} \rightarrow F_{III} \rightarrow M/L$
(FM1) (FM2) (FM3) (MW/LW)

Use Button ③ to switch between MW (531−1,602 kHz) and LW (153−281 kHz).

3 Use seek tuning to tune in a frequency.

Confirm that the SEEK indicator ❿ is shown on the display (if not, press the (+) and (−) sides of Button ③ at the same time). Press the (+) side of Button ③ to automatically tune in the next higher receivable frequency, and the (−) side for a lower frequency.

4 Adjust volume and tone (see page 2).

5 Assign the tuned frequency to one of the buttons in Bank ⑧ (preset memory).

Press and hold down one of the buttons in Bank ⑧ for at least two seconds. The frequency is assigned to the selected button when the preset number ❾ stops flashing on the display. Up to 18 FM stations (6 each for FM1, FM2 and FM3), and six MW/LW stations can be assigned to the preset memory buttons in Bank ⑧.

6 Once a frequency is assigned to a button in Bank ⑧, you just need to press that button to tune it in.

This also causes the number of the button pressed to appear at Position ❾ on the display.

Preset Scan Tuning

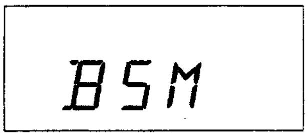
This function lets you automatically monitor the stations assigned to the preset buttons.

1. Press the button ⑥, and **"P.SCAN"** ⓬ will light up and the preset number ❾ flash.
   Each station assigned to the buttons in Bank ⑧ will be automatically tuned in for about eight seconds.
2. When you hear a station that you like, press Button ⑥ again to cancel preset scan tuning and remain at that station.

BSM (Best Stations Memory)

This function automatically locates stronger stations and automatically assigns their frequencies to the buttons in Bank ⑧, from strongest to weakest. It comes in handy when trying to find local stations while driving.

1. Press Button ④ and select a band.
2. Hold down Button ⑤. After about two seconds, a "beep" will sound to signal that the BSM search has started. At this time, **"BSM"** will flash on the display.



3. The frequency display will return once BSM search is complete, and frequencies are assigned to buttons 1 through 6 in Bank ⑧.

- At the end of the BSM search, the displayed frequency is that assigned to Button 1 of Bank ⑧.
- If there are fewer than six strong stations in the area, some of the buttons in Bank ⑧ will not be assigned frequencies, so they will retain any frequencies assigned to them previously.
- BSM search may take as long as 30 seconds in areas where there are few strong stations.
- You can cancel BSM search by pressing Button ④.

Manual Tuning

Use manual tuning when stations are too weak to be picked up by seek tuning.

1. Press both (+) and (−) sides of Button ③ at the same time to clear **"SEEK"** ❿.
2. Each press of the (+) side of Button ③ increases the frequency in 50 kHz steps in the FM band, 9 kHz in the MW band and 1 kHz in the LW band. Pressing the (−) side of Button ③ decreases the frequency. Holding down either side of Button ③ changes the frequency at high speed.

Switching between FM Stereo and Mono

Generally, it is best to allow the ARC (Automatic Reception Control) function to automatically set the optimum listening conditions. When there is a large amount of noise, you can press Button ⑦ for clearer mono reception (**"MONO"** ⓭ will appear on the display).

Adjusting Seek Sensitivity

The seek tuning function of this tuner lets you select between a local setting for reception of strong stations only, and a DX (distant) setting for reception of weaker stations. The local setting also has four seek tuning sensitivity levels for FM and two levels for MW/LW to match local conditions.

Changing the Local Seek Sensitivity

1. Use Button ④ to select a band.
2. Hold down the button ② for more than two seconds, and the display will show you the current local seek sensitivity for about five seconds.

(Example: LOC-2)

3. While the local seek sensitivity remains on the display, press the (+) side of Button ③ to increase the sensitivity level, and the (−) side to decrease the level as shown below.

FM : LOC-1⇄LOC-2⇄LOC-3⇄LOC-4
MW/LW: LOC-1⇄LOC-2

The LOC-4 setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.

- The display of local seek sensitivity returns to the frequency when about five seconds have elapsed after the change of sensitivity.

Switching between Local and DX

Press Button ② to switch between Local and DX (distant) seek tuning.
When **"LOC"** ⓫ is shown on the display, seek tuning is performed with the local seek sensitivity. Otherwise, seek tuning is performed with the DX seek sensitivity.

• Note on LW Band Seek Tuning

The following shows changes in LW BAND broadcast frequency steps enacted by WARC/1979. The underlined italic figures indicate changes.

A. Up to January 1986
155-164-173-182-191-200-209-218-227-236-245-254-263-272-281

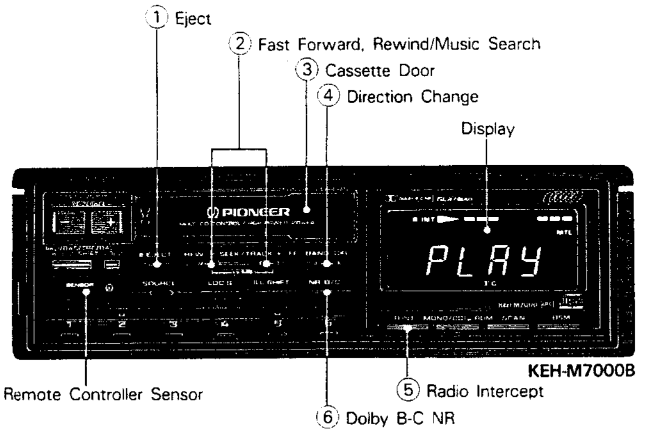
B. From February 1986
153-162-171-180-189-200-209-218-227-236-245-254-263-272-281

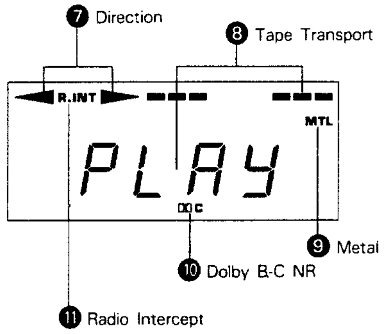
C. From February 1988
153-162-171-180-189-*198-207-216-225-234*-245-254-263-272-281

D. From February 1990
153-162-171-180-189-198-207-216-225-234-*243-252-261-270-279*

The LW BAND SEEK operations of this unit are performed in 9 kHz steps starting from 153 kHz. In the case of C, the first ten frequencies are identical to each station being broadcasted, while the remaining five are shifted (2 kHz each). Consequently, manual tuning (in 1 kHz steps) and seek tuning should be used together to tune in the desired LW broadcast. It is also suggested that your favorite LW stations will be memorized for instant recall.

3. USING THE TAPE DECK


① Eject
② Fast Forward, Rewind/Music Search
③ Cassette Door
④ Direction Change
Display
PIONEER
PLAY
KEH-M7000B
Remote Controller Sensor
⑤ Radio Intercept
⑥ Dolby B-C NR


❼ Direction
❽ Tape Transport
R.INT
MTL
PLAY
DDC
❾ Metal
❿ Dolby B-C NR
⓫ Radio Intercept

1 Insert the cassette tape into the slot ③, and power will be turned on and the tape begin being played back.
At this time, the tape running indicator ❽ and the tape running direction indicator ❼ will light up.

2 Adjust volume and tone (see page 2).

3 To eject the cassette tape, press the button ①.

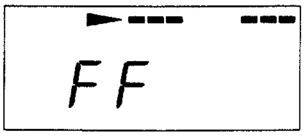
- Power is automatically turned off when the cassette tape has not been set within a few seconds. When this happens, remove the tape by pressing the button ① because of a possible trouble with the tape.
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.

Changing Program

Press the button ④ to change the side of tape from A to B or vice versa.

Using Fast Forward and Rewind

1. To forward tape fast, press the (+) side of the button ②.

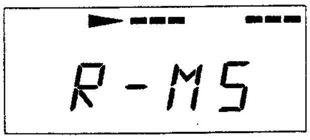


To rewind tape, press the (−) side.

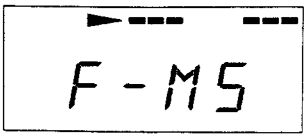
2. To release the Fast Forward or Rewind function, press the button ④.

Using Music Search

1. To repeat the current selection (A), press the (−) side of the button ② two consecutive times.



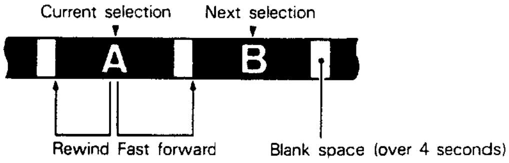
To hear the follwing piece of music (B) rather than continue the current selection, press the (+) side of the button ② two consecutive times. Pressing the button ② three consecutive times makes the normal sequence of playing resume.



2. To release the Music Search function, press the button ④.

The following errors will cause the music search function to operate improperly, even though the unit is not malfunctioning.

- Unrecorded "blank" portions between selections is less than 4 seconds → the blank portion cannot be detected by the unit.
- Pauses in recorded conversations are longer than 4 seconds → the unit reads these as blanks between selections.
- Portions are recorded at very low volume for more than 4 seconds → the unit reads these as blanks between selections.


Current selection
Next selection
A
B
Rewind
Fast forward
Blank space (over 4 seconds)

Dolby B-C NR

To hear a tape recorded using a Dolby NR system, press the button ⑥. At each press, mode changes: Dolby B-type NR ("DD" ❿ appears)→Dolby C-type NR ("DDC" ❿ appears)→Dolby NR OFF.

Auto Tape Selector

When a cassette tape is inserted, the automatic tape selector determines the tape type, and switches between 70 µs and 120 µs equalization. When it is a metal or chrome tape, **"MTL"** ❾ comes on. When it is a normal tape, nothing comes on.

Using Radio Intercept

Use Radio Intercept to hear radio while Fast Forward or Rewinding.

1. Press the button ⑤ (**"R.INT"** ⓫ appears) before Fast Forward or Rewinding, and you will hear radio.
2. To release the Radio Intercept function, press the button ⑤ again.

- The Radio Intercept does not function when the Music Search is in operation.

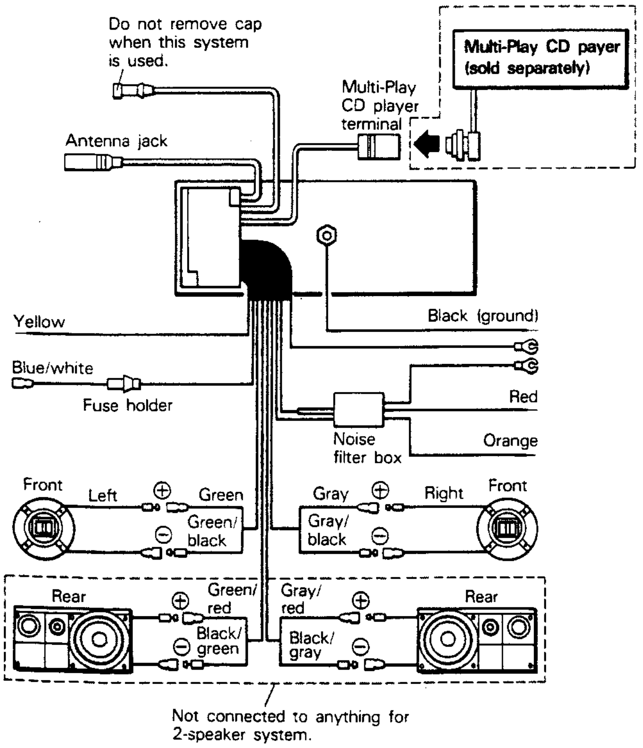
4. CONNECTIONS

Note:

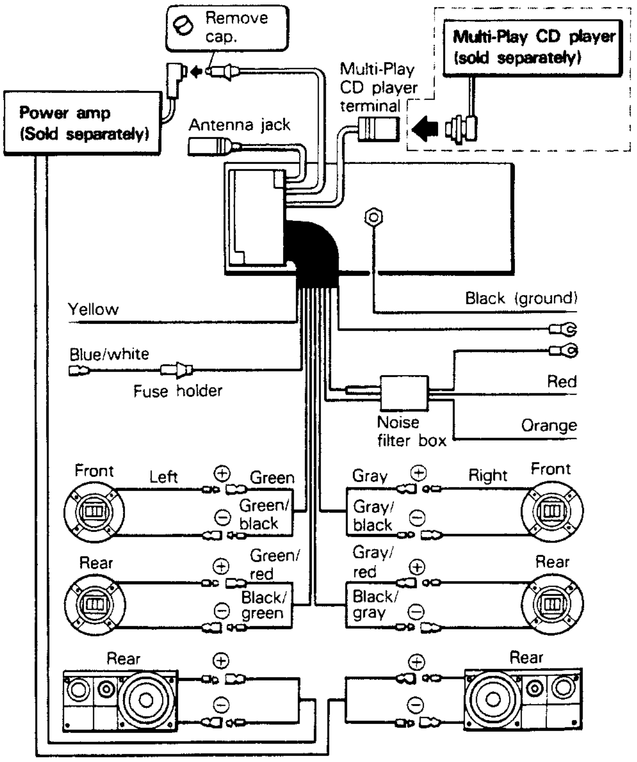
- To avoid shorts in the electrical system, be sure to disconnect the battery ⊖ cable before beginning installation.
- Be sure to properly connect the color coded leads. Failure to do so can cause malfunctions.
- Be sure to connect the grounding lead to a metal part, such as the chassis of the car. If the lead is not connected properly, this unit will not operate at all.
- Since a unique BPTL circuit is employed, never wire so the speaker leads are directly grounded or the left and right speaker ⊖ leads are common.
- Refer to the owner's manual for details on connecting the various cords of the power amp and other units, then make connections correctly.
- Speakers connected to this unit must be high-power type possessing maximum input of at least 25 W and impedance of 4 to 8 ohms. Connecting speakers with output and/or impedance values other than those noted here can damage the speakers.
- Be sure that the antenna cord and speaker cord are apart as far as possible from each other in order to prevent noise interruption. When this unit is connected to an optionally available Multi-Play CD player, such as CDX-M70, the connecting cord must also be as distant as possible from the antenna cord for the same purpose.

Yellow	To lighting switch terminal.
Blue/white	To auto-antenna power terminal (Max. 300 mA 12 V DC).
Orange	To terminal always supplied with power regardless of ignition switch position.
Red	To electric terminal controlled by ignition switch (12 V DC) ON/OFF.
Black (ground)	To vehicle (metal) body.

2/4-speaker system


Do not remove cap when this system is used.
Multi-Play CD payer (sold separately)
Multi-Play CD player terminal
Antenna jack
Yellow
Black (ground)
Blue/white
Fuse holder
Red
Noise filter box
Orange
Front
Left
⊕
Green
⊖
Green/ black
Gray
⊕
Right
Front
Gray/ black
⊖
Rear
⊕
Green/ red
⊖
Black/ green
Gray/ red
⊕
Rear
Black/ gray
⊖
Not connected to anything for 2-speaker system.

6-speaker system


Remove cap.
Multi-Play CD player (sold separately)
Multi-Play CD player terminal
Power amp (Sold separately)
Antenna jack
Yellow
Black (ground)
Blue/white
Fuse holder
Red
Noise filter box
Orange
Front
Left
⊕
Green
⊖
Green/ black
Gray
⊕
Right
Front
Gray/ black
⊖
Rear
⊕
Green/ red
⊖
Black/ green
Gray/ red
⊕
Rear
Black/ gray
⊖
Rear
⊕
⊖
Rear
⊕
⊖

5. DISASSEMBLY

• Removing the Handle Assy

1. Remove the four screws.
2. Press the tabs at four locations indicated by arrows, and then pull out the handle assy.

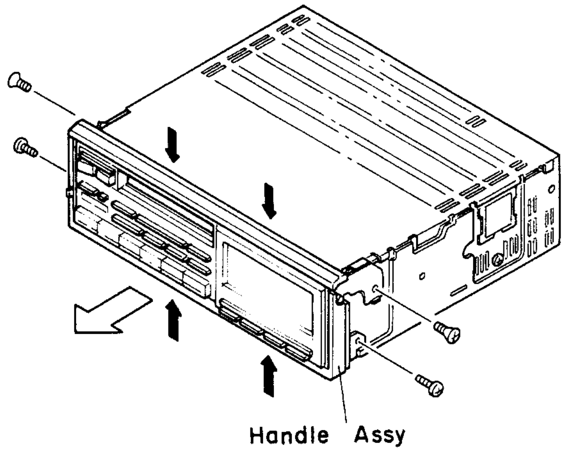

Handle Assy

Fig. 1

• Removing the Case

1. Insert and turn a flat screwdriver to remove the case.
2. Raise the case to remove.

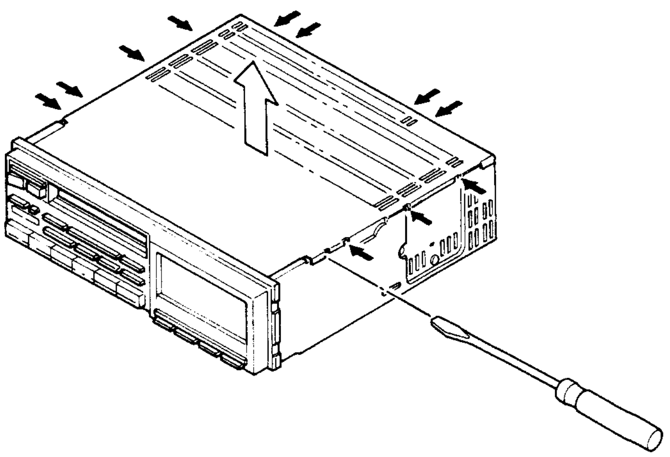


Fig. 2

• Removing the Cassette Mechanism Assy

1. Remove the four screws.
2. Disconnect the mechanism control unit connector.
3. Remove the cassett mechanism assy.

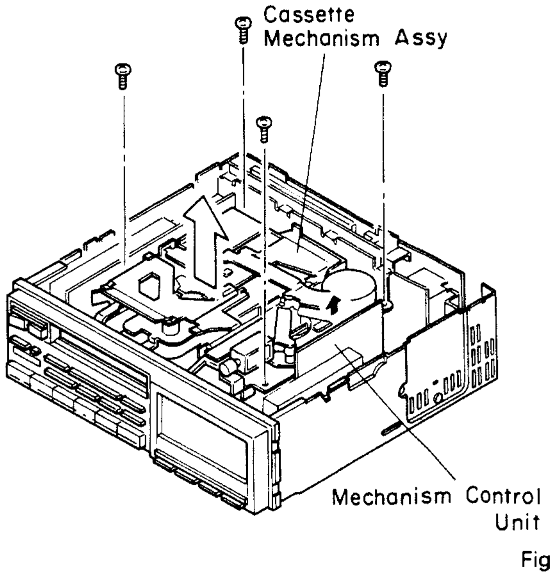

Cassette Mechanism Assy
Mechanism Control Unit

Fig. 3

• Removing the Grille Assy

1. Disconnect the two connectors.
2. Press the tabs at three locations indicated by arrows, and then pull out the grille assy.

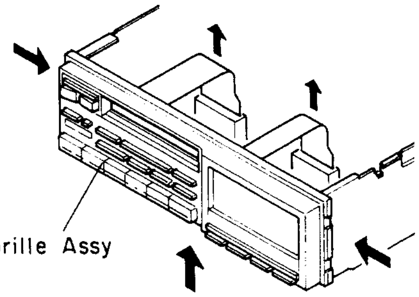

Grille Assy

Fig. 4

• Removing the Tuner Amp Unit

1. Remove the five screws, and remvoe the cord assy.
2. Unbend the tabs at three locations indicated by arows until straight.
3. Remove the solder indicated by arrow A.
4. Disconnect the connector.
5. Raise up on tuner amp unit to remove it from chassis unit.

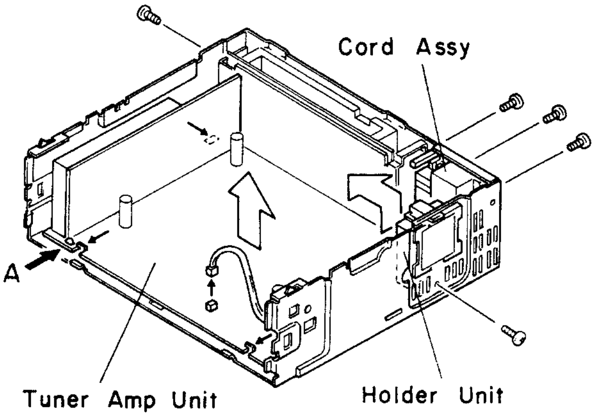

Cord Assy
A
Tuner Amp Unit
Holder Unit

Fig. 5

• Removing the Dolby NR P.C. Board, Amp P.C. Board and FM/AM Tuner Unit

1. Remove the solder and unbend the tabs on back of each unit circuit board until straight.
2. Pull out unit as shown in illustration.

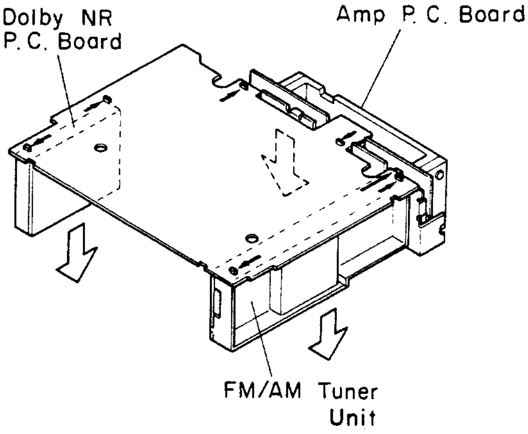

Dolby NR
P. C. Board
Amp P. C. Board
FM/AM Tuner
Unit

Fig. 6

• Removing the Display Unit

1. Remove the four screws.
2. Press the tabs at four locations indicated by arrows, and then pull out the display unit.

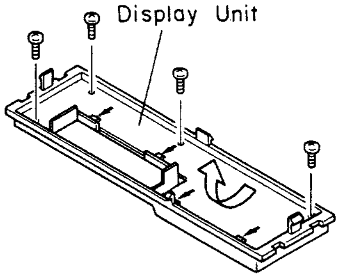
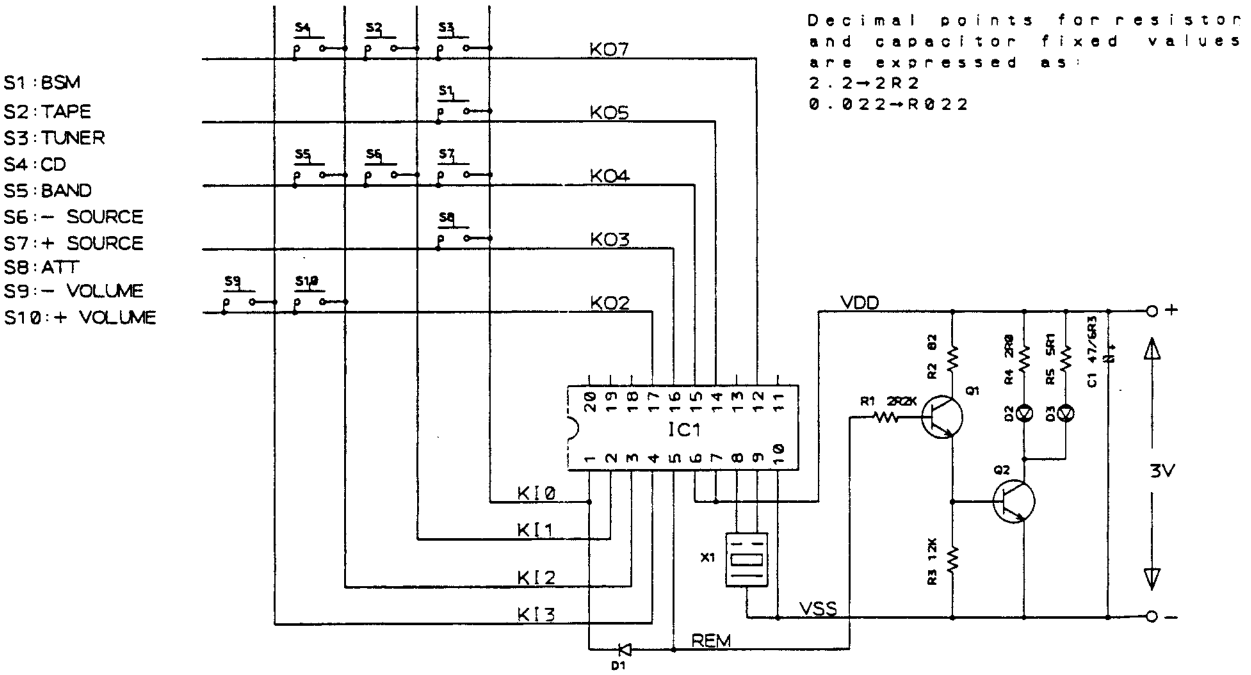

Display Unit

Fig. 7

6. REMOTE CONTROL ASSY


S1 : BSM
S2 : TAPE
S3 : TUNER
S4 : CD
S5 : BAND
S6 : − SOURCE
S7 : + SOURCE
S8 : ATT
S9 : − VOLUME
S10 : + VOLUME
S4
S2
S3
S1
S5
S6
S7
S8
S9
S10
KO7
KO5
KO4
KO3
KO2
KI0
KI1
KI2
KI3
IC1
X1
D1
REM
VDD
VSS
R1 2R2K
R2 82
R3 12K
R4 2R0
R5 5R1
C1 47/6R3
Q1
Q2
D2
D3
3V
+
−

Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

Fig. 8

7. ADJUSTMENT

- Connection Diagram

NOTICE:
Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.
Z: Output impedance of SSG.

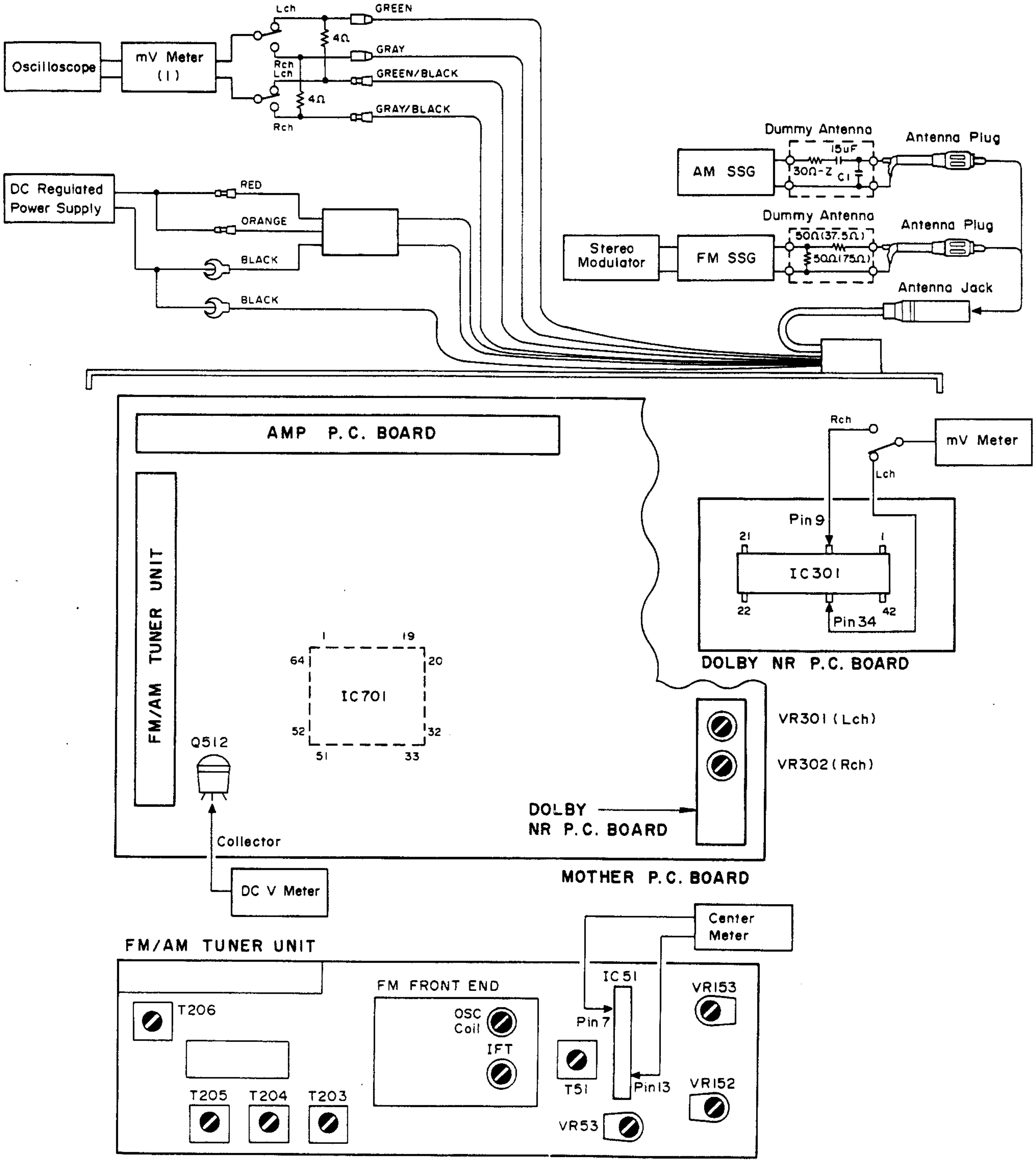

Oscilloscope
mV Meter (1)
Lch
Rch
Lch
Rch
4Ω
4Ω
GREEN
GRAY
GREEN/BLACK
GRAY/BLACK
DC Regulated Power Supply
RED
ORANGE
BLACK
BLACK
Dummy Antenna
15uF
30Ω-Z
C1
AM SSG
Antenna Plug
Dummy Antenna
50Ω(37.5Ω)
50Ω(75Ω)
Stereo Modulator
FM SSG
Antenna Plug
Antenna Jack
AMP P.C. BOARD
FM/AM TUNER UNIT
1
19
64
20
IC701
52
32
51
33
Q512
Collector
DC V Meter
Rch
mV Meter
Lch
Pin 9
21
1
IC301
22
42
Pin 34
DOLBY NR P.C. BOARD
VR301 (Lch)
VR302 (Rch)
DOLBY NR P.C. BOARD
MOTHER P.C. BOARD
Center Meter
FM/AM TUNER UNIT
FM FRONT END
IC51
VR153
T206
OSC Coil
IFT
Pin 7
T51
Pin13
VR152
T205
T204
T203
VR53

Fig. 9

DOLBY NR LEVEL ADJUSTMENT

No.	Cassette Tape	Adjusting Point	Adjustment Method (Switch Position)
1	NCT-150(400Hz, 200nwb/m)	VR301(Lch), VR302(Rch)	mV Meter:-8.2dBs±1dB (Dolby NR Switch:OFF, METAL Switch:OFF)

MW/LW ADJUSTMENT

	No.	AM SSG(400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency(kHz)	Level(dBμV)			
Tuning Volt	1	(MW Mode)		1,602	T203	DC V Meter:Less than 7.0V
	2	(LW Mode)		153		Verify that DC V Meter is more than 2.0V
IF	1	999	20−25	999	T204, T205, T206	mV Meter(1):Maximum

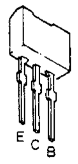
FM ADJUSTMENT

※Stereo MOD.:1kHz, L+R=90%, Pilot=10%

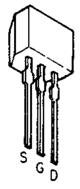
	No.	FM SSG(400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBμV)			
Tuning Volt	1			108.0	OSC Coil (FM Front End)	DC V Meter:7.0V
IF	1	98.1 Unmodulated	60	98.1	T51	Center Meter:0
	2	98.1	5	98.1	IFT(FM Front End)	mV Meter(1):Maximum
Mute	1	98.1	60	98.1		mV Meter(1):A dB (This output is A)
	2	98.1	10	98.1	VR53	mV Meter(1):A-3dB
ARC	1	98.1※	60	98.1	VR153	mV Meter(1):Separation Maximum (Stereo Position)
	2	98.1※	35	98.1	VR152	mV Meter(1):Separation 5dB (Stereo Position)

- **ICs and Transistors**

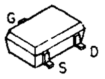
2SB1243
2SD1859



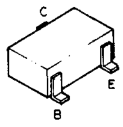
2SK330



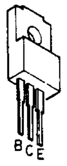
2SJ106



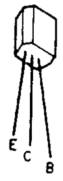
2SC2712
2SC3295
2SC4116



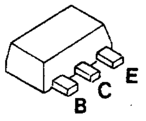
2SB945



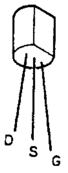
2SA1048
2SC2458
2SC3113



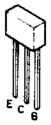
2SB1441JU



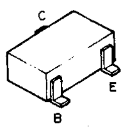
2SK435



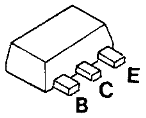
DTA144ES



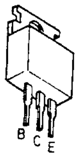
DTC124EK
DTC143ZU



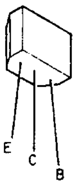
DTBL13ZP



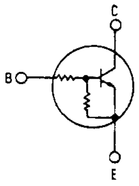
DTB123ES



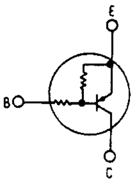
DTA114ES
DTA143ES
DTC143ES
DTC144ES
DTC343TS
DTC363TS



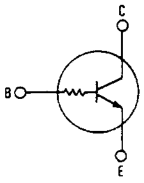
DTC143ES
DTC144ES



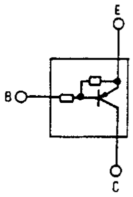
DTA114ES
DTA143ES
DTA144ES
DTB123ES



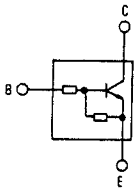
DTC343TS
DTC363TS



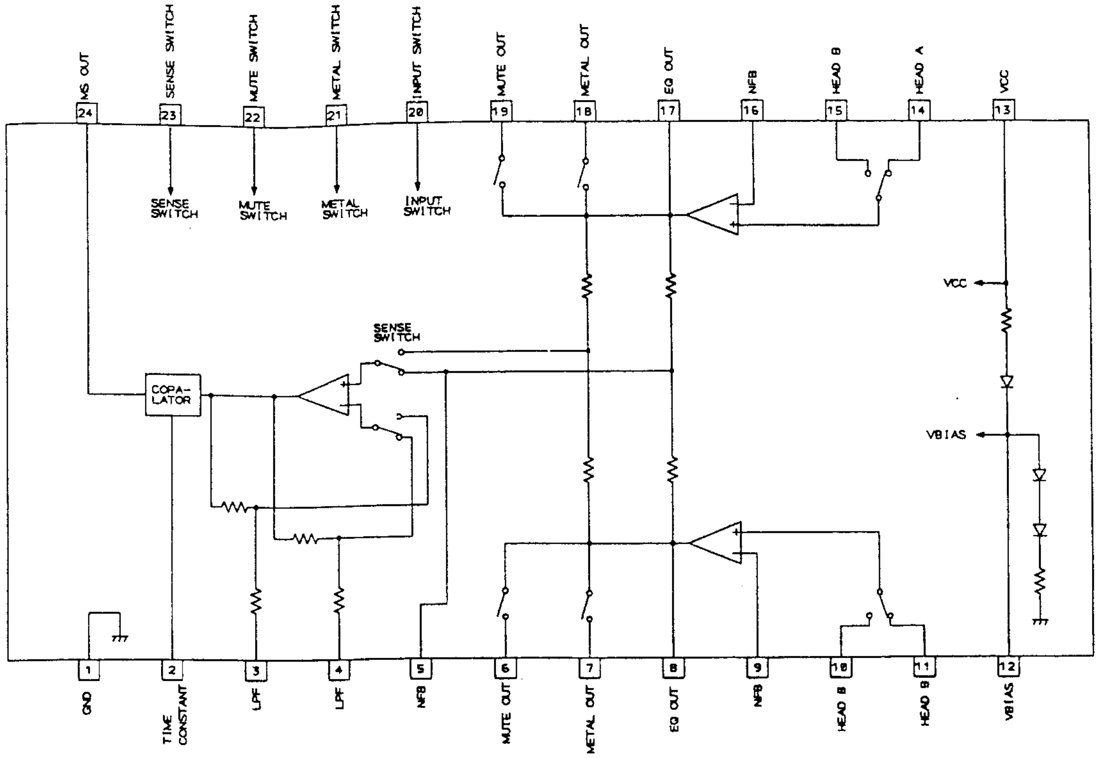
DTBL13ZP



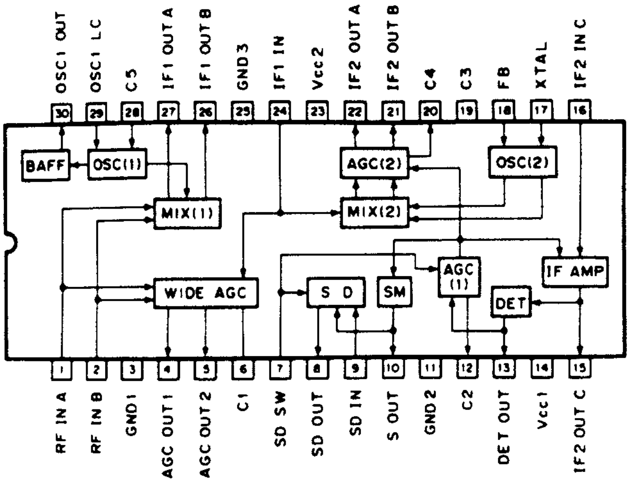
DTC124EK
DTC143ZU



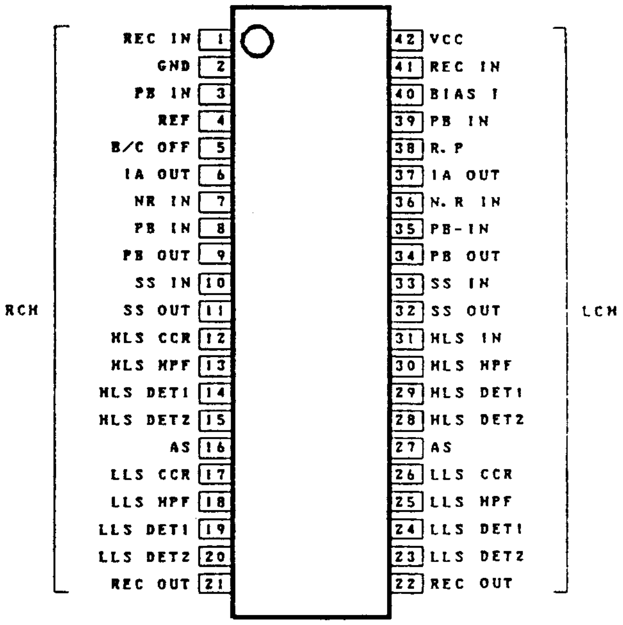
IC1 : BA3430FS


MS OUT
SENSE SWITCH
MUTE SWITCH
METAL SWITCH
INPUT SWITCH
MUTE OUT
METAL OUT
EQ OUT
NFB
HEAD B
HEAD A
VCC
24
23
22
21
20
19
18
17
16
15
14
13
SENSE SWITCH
MUTE SWITCH
METAL SWITCH
INPUT SWITCH
VCC
SENSE SWITCH
COPA-LATOR
VBIAS
1
2
3
4
5
6
7
8
9
10
11
12
GND
TIME CONSTANT
LPF
LPF
NFB
MUTE OUT
METAL OUT
EQ OUT
NFB
HEAD B
HEAD B
VBIAS

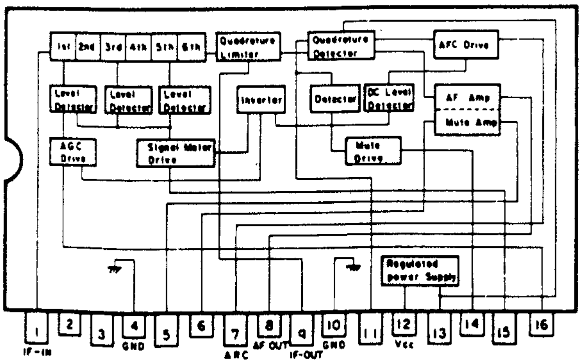
IC201 : PA4010


OSC1 OUT
OSC1 LC
C5
IF1 OUT A
IF1 OUT B
GND3
IF1 IN
Vcc2
IF2 OUT A
IF2 OUT B
C4
C3
FB
XTAL
IF2 IN C
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
BAFF
OSC(1)
AGC(2)
OSC(2)
MIX(1)
MIX(2)
IF AMP
AGC (1)
WIDE AGC
S D
SM
DET
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
RF IN A
RF IN B
GND1
AGC OUT 1
AGC OUT 2
C1
SD SW
SD OUT
SD IN
S OUT
GND2
C2
DET OUT
Vcc1
IF2 OUT C

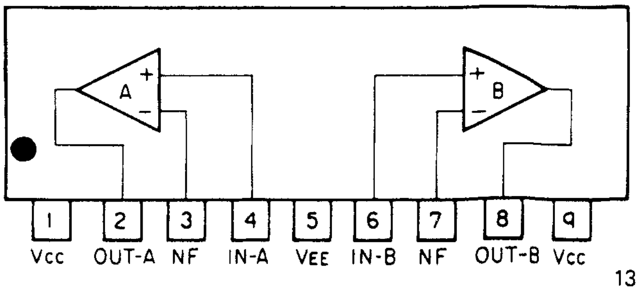
IC301 : HA12088ANT


REC IN 1
GND 2
PB IN 3
REF 4
B/C OFF 5
IA OUT 6
NR IN 7
PB IN 8
PB OUT 9
SS IN 10
SS OUT 11
HLS CCR 12
HLS HPF 13
HLS DET1 14
HLS DET2 15
AS 16
LLS CCR 17
LLS HPF 18
LLS DET1 19
LLS DET2 20
REC OUT 21
42 VCC
41 REC IN
40 BIAS I
39 PB IN
38 R. P
37 IA OUT
36 N. R IN
35 PB-IN
34 PB OUT
33 SS IN
32 SS OUT
31 HLS IN
30 HLS HPF
29 HLS DET1
28 HLS DET2
27 AS
26 LLS CCR
25 LLS HPF
24 LLS DET1
23 LLS DET2
22 REC OUT
RCH
LCH

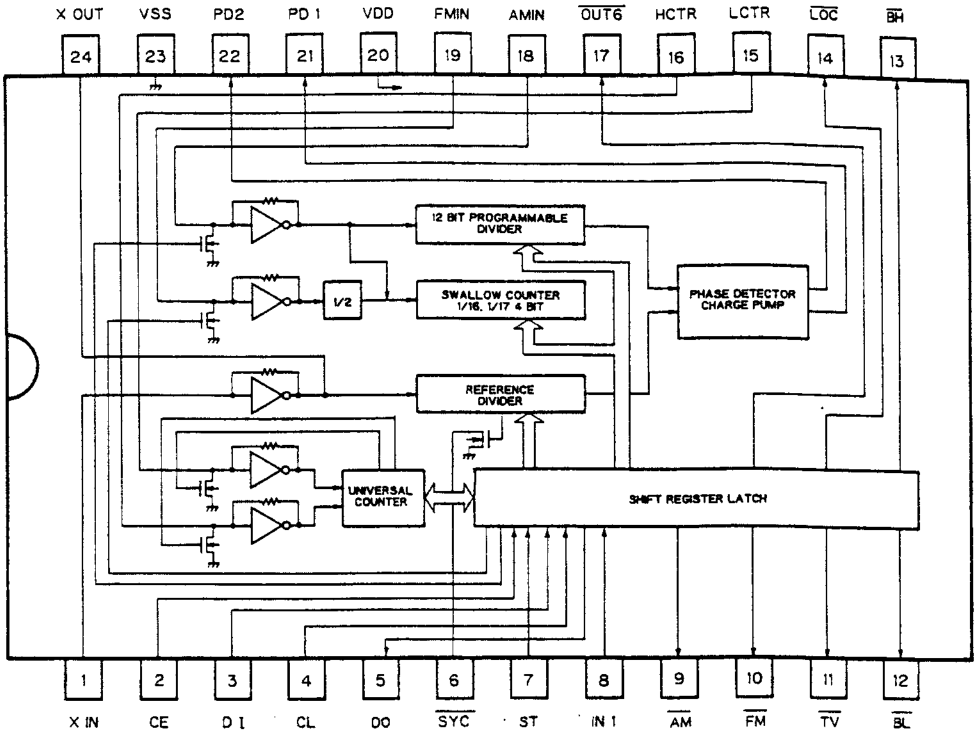
IC51 : LA1140B


1st
2nd
3rd
4th
5th
6th
Quadrature Limiter
Quadrature Detector
AFC Drive
Level Detector
Level Detector
Level Detector
Inverter
Detector
DC Level Detector
AF Amp
Mute Amp
AGC Drive
Signal Meter Drive
Mute Drive
Regulated power Supply
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
IF-IN
GND
ARC
AF OUT
IF-OUT
GND
Vcc

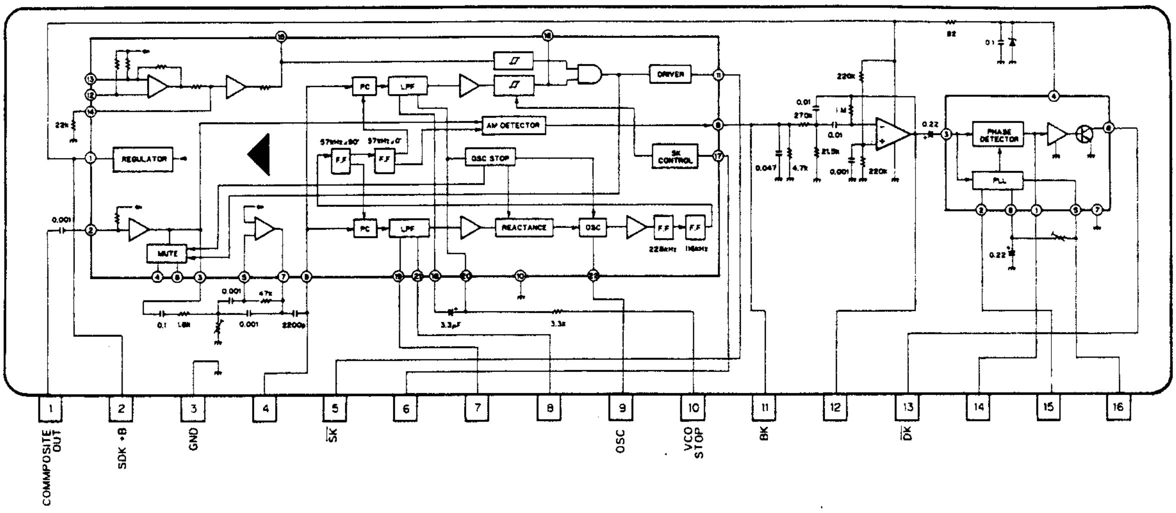
IC852 : μPC4570HA


A
+
−
B
+
−
1
2
3
4
5
6
7
8
9
Vcc
OUT-A
NF
IN-A
VEE
IN-B
NF
OUT-B
Vcc

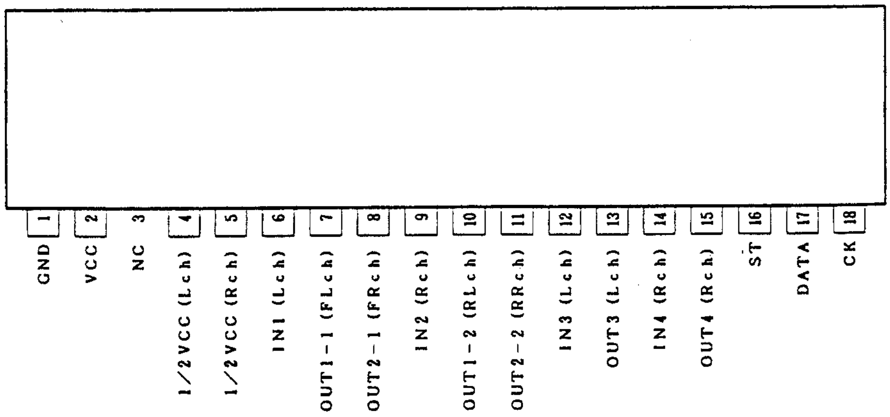
IC501 : LC7218


X OUT
VSS
PD2
PD 1
VDD
FMIN
AMIN
OUT6
HCTR
LCTR
LOC
BH
24
23
22
21
20
19
18
17
16
15
14
13
12 BIT PROGRAMMABLE DIVIDER
SWALLOW COUNTER 1/16, 1/17 4 BIT
1/2
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
1
2
3
4
5
6
7
8
9
10
11
12
X IN
CE
D I
CL
DO
SYC
ST
IN 1
AM
FM
TV
BL

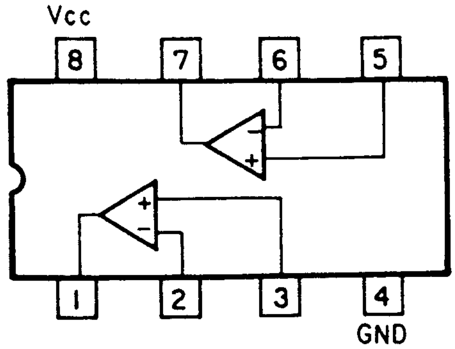
IC802 : KHA142


REGULATOR
MUTE
PC
LPF
AM DETECTOR
OSC STOP
REACTANCE
OSC
F.F
DRIVER
SK CONTROL
PHASE DETECTOR
PLL
57kHz
228kHz
114kHz
22k
0.001
0.1
4.7k
2200p
3.3μF
3.3k
0.01
270k
1M
220k
0.047
0.22
82
0.1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
COMMPOSITE OUT
SDK +B
GND
SK
OSC
VCO STOP
BK
DK

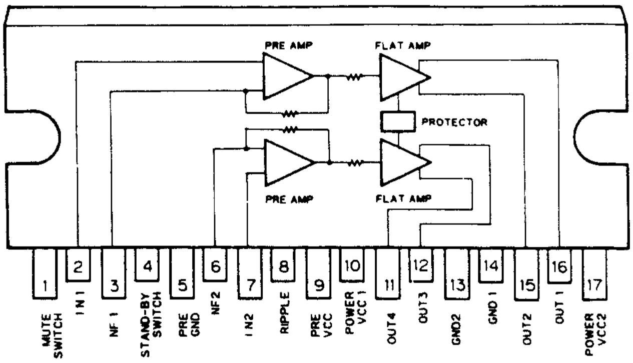
IC601 : KHA159A


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
GND
VCC
NC
1/2VCC (Lch)
1/2VCC (Rch)
IN1 (Lch)
OUT1-1 (FLch)
OUT2-1 (FRch)
IN2 (Rch)
OUT1-2 (RLch)
OUT2-2 (RRch)
IN3 (Lch)
OUT3 (Lch)
IN4 (Rch)
OUT4 (Rch)
ST
DATA
CK

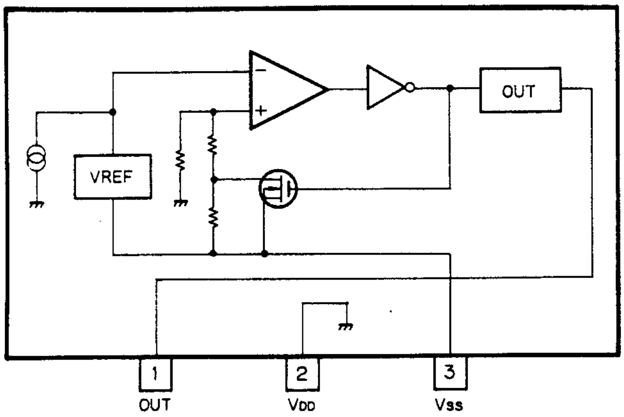
IC602 : µPC4570C


Vcc
8
7
6
5
1
2
3
4
GND

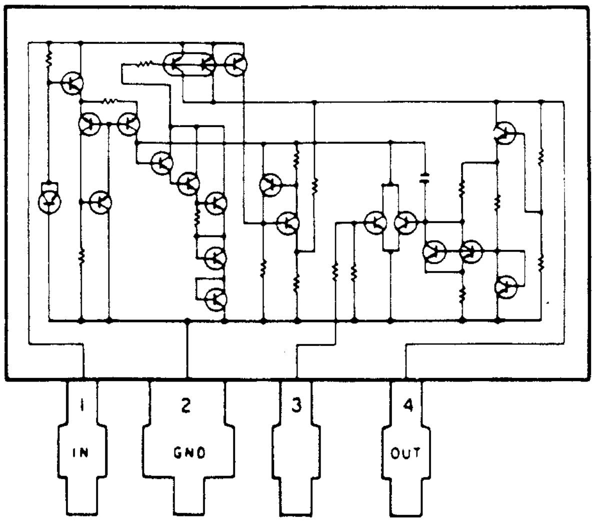
IC551, 552 : TA8215L


PRE AMP
FLAT AMP
PROTECTOR
PRE AMP
FLAT AMP
1 MUTE SWITCH
2 IN1
3 NF 1
4 STAND-BY SWITCH
5 PRE GND
6 NF2
7 IN2
8 RIPPLE
9 PRE VCC
10 POWER VCC 1
11 OUT4
12 OUT3
13 GND2
14 GND 1
15 OUT2
16 OUT 1
17 POWER VCC2

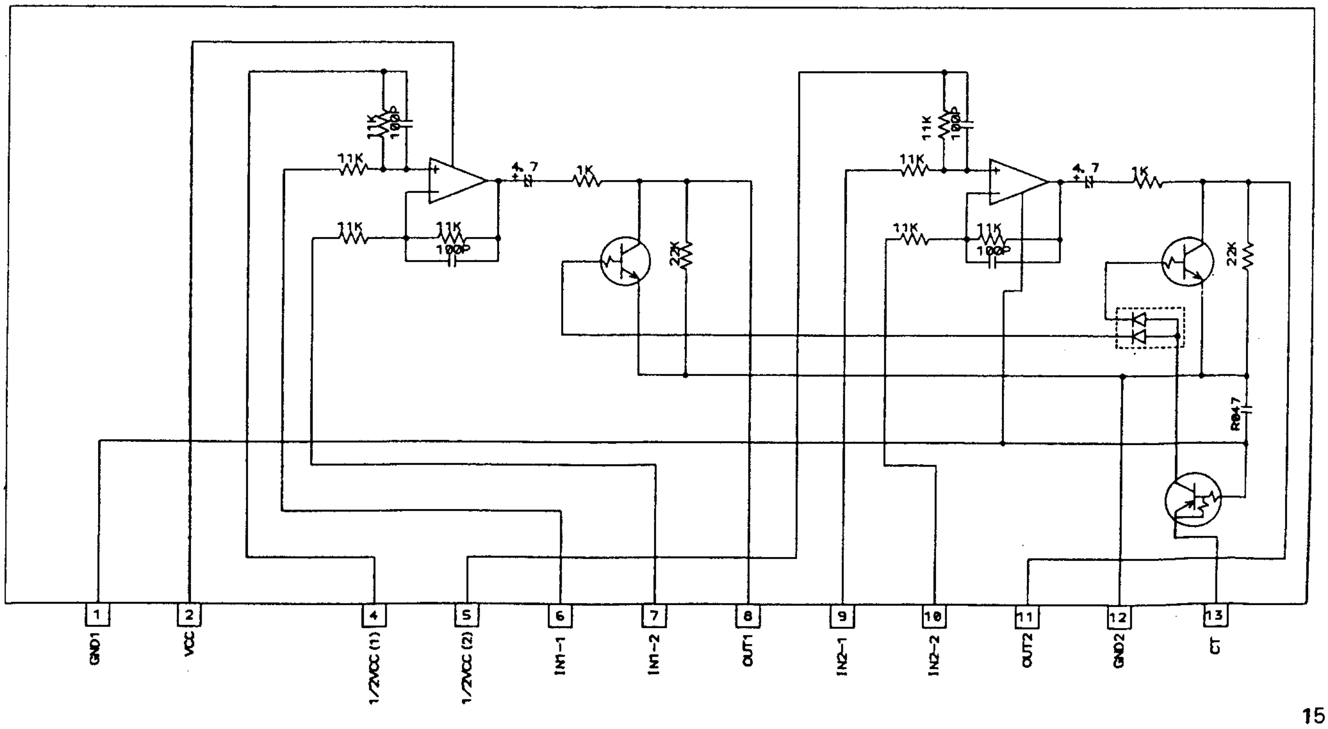
IC702 : S-8053ANO


VREF
OUT
1
OUT
2
VDD
3
Vss

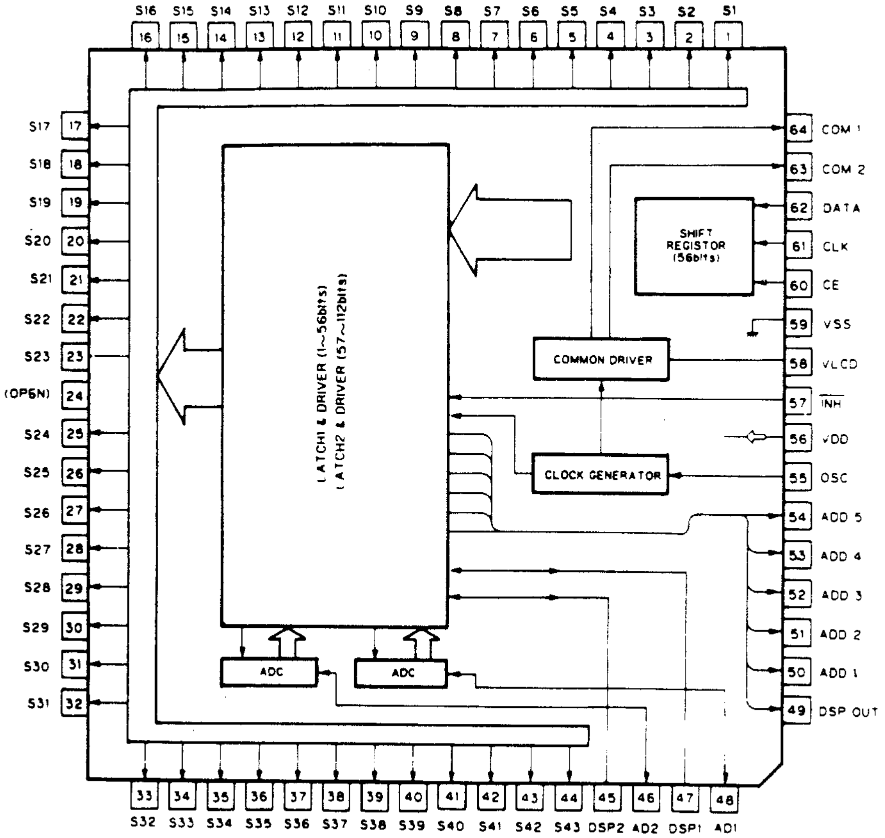
IC703 : AN6540


1
IN
2
GND
3
4
OUT

IC851 : KHA157

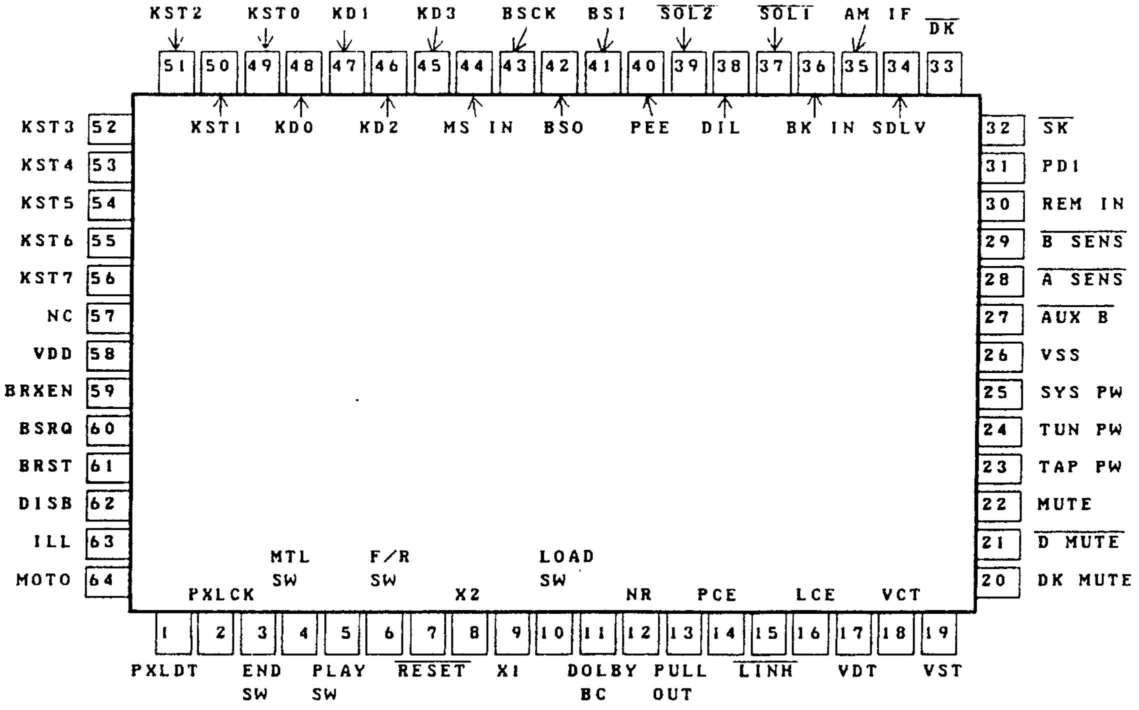

11K
100P
11K
11K
11K
100P
4.7
1K
22K
11K
100P
11K
11K
11K
100P
4.7
1K
22K
R047
1 GND1
2 VCC
4 1/2VCC (1)
5 1/2VCC (2)
6 IN1-1
7 IN1-2
8 OUT1
9 IN2-1
10 IN2-2
11 OUT2
12 GND2
13 CT

IC901 : LC7582P


S1 1
S2 2
S3 3
S4 4
S5 5
S6 6
S7 7
S8 8
S9 9
S10 10
S11 11
S12 12
S13 13
S14 14
S15 15
S16 16
S17 17
S18 18
S19 19
S20 20
S21 21
S22 22
S23 23
(OPEN) 24
S24 25
S25 26
S26 27
S27 28
S28 29
S29 30
S30 31
S31 32
S32 33
S33 34
S34 35
S35 36
S36 37
S37 38
S38 39
S39 40
S40 41
S41 42
S42 43
S43 44
DSP2 45
AD2 46
DSP1 47
AD1 48
49 DSP OUT
50 ADD 1
51 ADD 2
52 ADD 3
53 ADD 4
54 ADD 5
55 OSC
56 VDD
57 INH
58 VLCD
59 VSS
60 CE
61 CLK
62 DATA
63 COM 2
64 COM 1
SHIFT REGISTOR (56bits)
COMMON DRIVER
CLOCK GENERATOR
LATCH1 & DRIVER (1~56bits)
LATCH2 & DRIVER (57~112bits)
ADC
ADC

IC701 : *PD4190

*IC's marked by *are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.


KST2 51
KST1 50
KST0 49
KD0 48
KD1 47
KD2 46
KD3 45
MS IN 44
BSCK 43
BSO 42
BSI 41
PEE 40
SOL2 39
DIL 38
SOL1 37
BK IN 36
AM IF 35
SDLV 34
DK 33
32 SK
31 PDI
30 REM IN
29 B SENS
28 A SENS
27 AUX B
26 VSS
25 SYS PW
24 TUN PW
23 TAP PW
22 MUTE
21 D MUTE
20 DK MUTE
1 PXLDT
2 PXLCK
3 END SW
4 MTL SW
5 PLAY SW
6 F/R SW
7 RESET
8 X2
9 X1
10 LOAD SW
11 DOLBY BC
12 NR
13 PULL OUT
14 PCE
15 LINH
16 LCE
17 VDT
18 VCT
19 VST
KST3 52
KST4 53
KST5 54
KST6 55
KST7 56
NC 57
VDD 58
BRXEN 59
BSRQ 60
BRST 61
DISB 62
ILL 63
MOTO 64

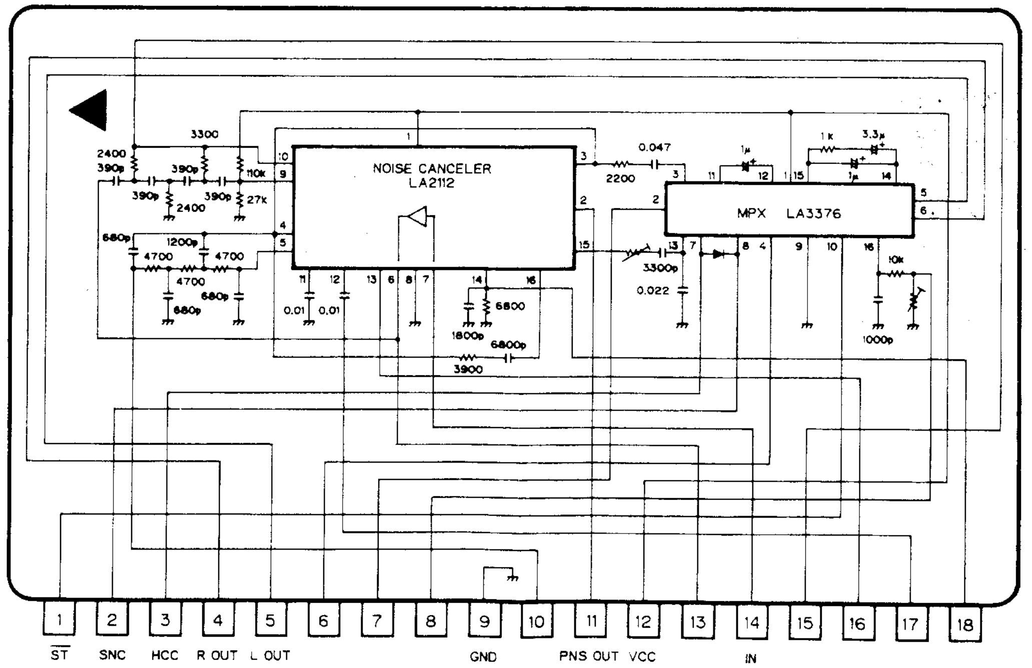
- **Pin Functions (PD4190)**

Pin No.	Pin Name	I/O	Output Format	Function and Operation	STBY	RST
1	PXLDT	Output	C	LCD driver IC and PLL IC data line	L	Hi-Z
2	PXLCK	Output	C	LCD driver IC and PLL IC clock line	L	Hi-Z
3	END SW	Input		Deck END sensor input		
4	MTL SW	Input		Deck METAL(70μS) sensor input		
5	PLAY SW	Input		Deck head position(PLAY) sensor input		
6	F/R SW	Input		Deck FWD/REV sensor input		
7	$\overline{\text{RESET}}$	Input		Reset input		
8	X2			Crystal oscillating element connection pin		
9	X1			Crystal oscillating element connection pin		
10	LOAD SW	Input		Deck LOAD/EJECT sensor input		
11	DOLBYBC	Output	C	Dolby NR B/C selector output	L	Hi-Z
12	NR	Output	C	Dolby NR ON/OFF output	L	Hi-Z
13	PULL UP	Output	C	Cut pull up for deck switches when BACK UP is OFF	Hi-Z	
14	PCE	Output	C	Chip enable output for PLL IC (IC501:LC7218)	L	Hi-Z
15	$\overline{\text{LINH}}$	Output	C	INH control output for LCD driver IC(IC901:LC7582P)	L	Hi-Z
16	LCE	Output	C	Chip enable or strobe output for LCD driver IC	L	Hi-Z
17	VDT	Output	C	Data output for electronic volume IC(IC601:KHA255B)	L	Hi-Z
18	VCK	Output	C	Clock output for electronic volume IC(IC601:KHA255B)	L	Hi-Z
19	VST	Output	C	Strobe output for electronic volume IC(IC601:KHA255B)	L	Hi-Z
20	DK MUTE	Output	C	Not used	H	Hi-Z
21	$\overline{\text{D MUTE}}$	Output	C	Deck mute output	H	Hi-Z
22	MUTE	Output	C	System mute output	H	Hi-Z
23	TAP PW	Output	C	Deck power supply control	L	Hi-Z
24	TUN PW	Output	C	Tuner power supply control	L	Hi-Z
25	SYS PW	Output	C	System(power amp)power supply control	L	Hi-Z
26	VSS			GND		
27	$\overline{\text{AUX B}}$	Input		AUX B sensor input		
28	$\overline{\text{A SENS}}$	Input		ACC power supply sensor input		
29	$\overline{\text{B SENS}}$	Input		BACK UP power supply sensor input		
30	REM IN	Input		Remote control pulse input		
31	PDI	Input		Data input for PLL IC (IC501:LC7218)	L	Hi-Z
32	$\overline{\text{SK}}$	Input		SK signal input		
33	$\overline{\text{DK}}$	Input		DK signal input		
34	SDLEV	Input		Input level sensor input		
35	AM IF	Input		AM IF count input		
36	BK IN			Not used		
37	$\overline{\text{SOL 1}}$	Output	C	Output for deck solenoid 1 (head position)	L	Hi-Z
38	DIL	Output	C	Deck FWD/REV head selector output	Keep	Hi-Z
39	$\overline{\text{SOL 2}}$	Output	C	Output for deck solenoid 2 (DIR selector and EJECT)	L	Hi-Z
40	PEE	Output	C	Beep tone output	L	Hi-Z

Pin No.	Pin Name	I/O	Output Format	Function and Operation	STBY	RST
41	BSI	Input		Bus serial data input		
42	BSO	Output	C	Bus serial data output		
43	BSCK	Input/ Output	C	Bus serial clock input/output		
44	MS IN	Input		Music signal input		
45～48	KD3～KD0	Input		Key return input		
49	KST0	Output	NM	Model sense strobe output	Hi-Z	Hi-Z
50	KST1	Output	NM	Model sense strobe output	Hi-Z	Hi-Z
51～56	KST2～ KST7	Output	NM	Key strobe output		
57	NC					
58	VDD					
59	BRXEN	Input/ Output	C	Bus reception enable line		
60	BSRQ	Input		Data communications serial poll request	L	Hi-Z
61	BRST	Output	C	Bus reset	H	Hi-Z
62	DISB	Output	C	AUX control output	L	Hi-Z
63	ILL	Output	C	Illumination green/amber selector output	Keep	Hi-Z
64	MOTO	Output	C	Deck main motor control output	L	Hi-Z

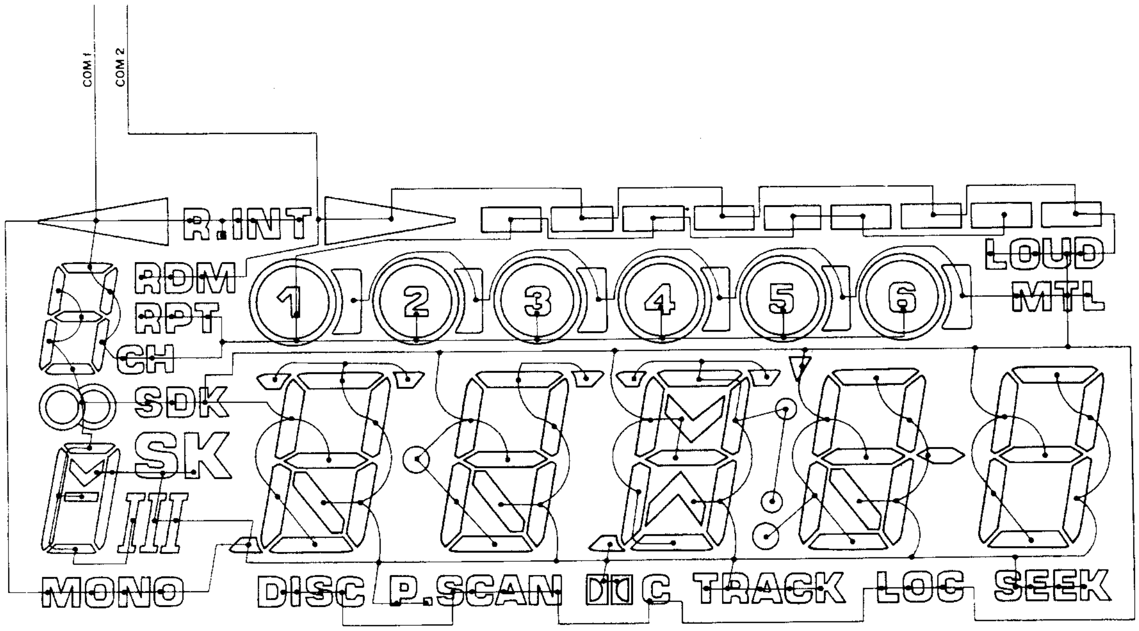
Output Format	Meaning
C	CMOS Output
NM	Neutral resistivity N channel open drain

IC101:KHA146

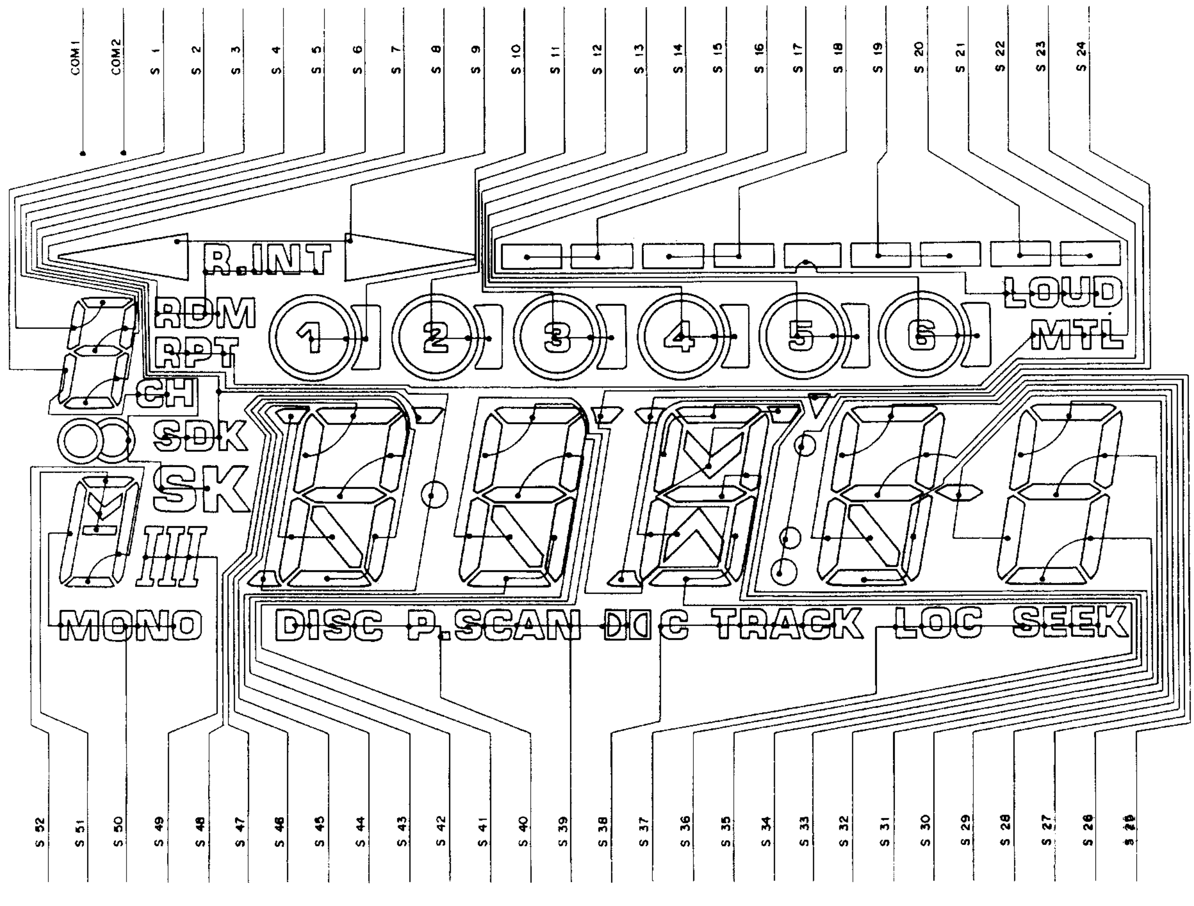


• LCD (CAW1061)

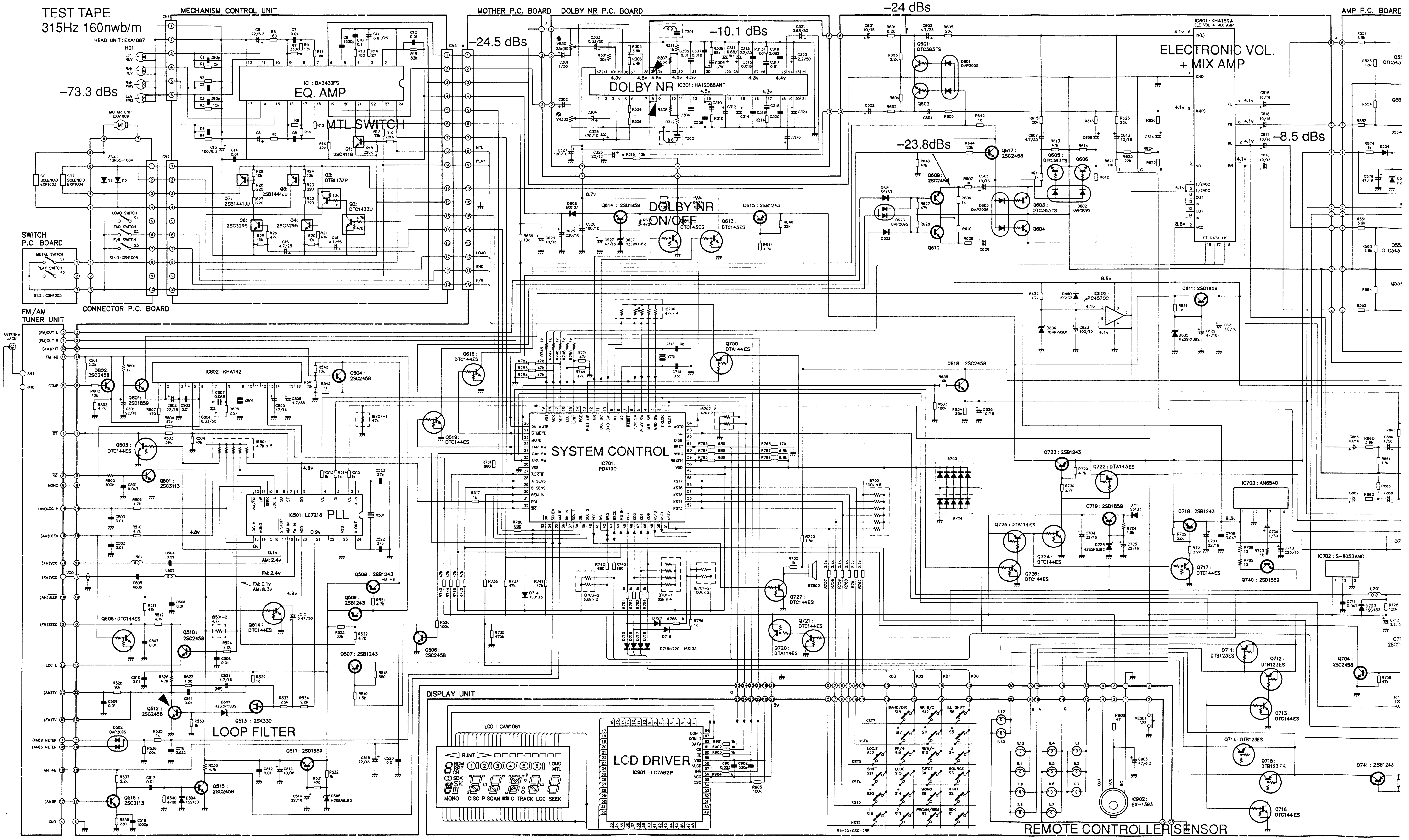
COMMON


COM 1
COM 2
R.INT
RDM
RPT
CH
SDK
SK
III
LOUD
MTL
1
2
3
4
5
6
MONO
DISC
P.SCAN
C
TRACK
LOC
SEEK

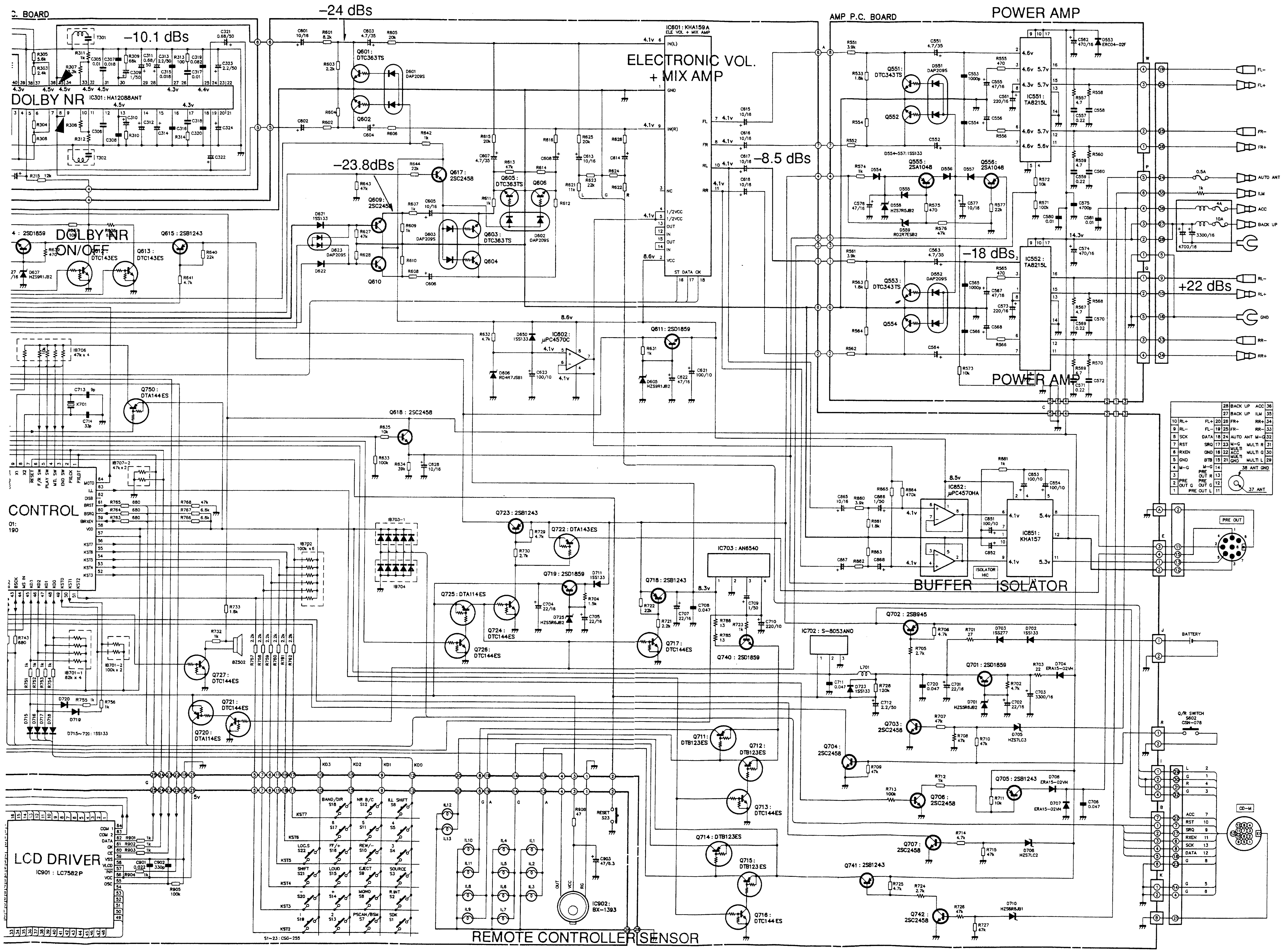
SEGMENT


COM 1
COM 2
S 1
S 2
S 3
S 4
S 5
S 6
S 7
S 8
S 9
S 10
S 11
S 12
S 13
S 14
S 15
S 16
S 17
S 18
S 19
S 20
S 21
S 22
S 23
S 24
R.INT
RDM
RPT
CH
SDK
SK
III
LOUD
MTL
1
2
3
4
5
6
MONO
DISC
P.SCAN
C
TRACK
LOC
SEEK
S 52
S 51
S 50
S 49
S 48
S 47
S 46
S 45
S 44
S 43
S 42
S 41
S 40
S 39
S 38
S 37
S 36
S 35
S 34
S 33
S 32
S 31
S 30
S 29
S 28
S 27
S 26
S 25

8. SCHEMATIC CIRCUIT DIAGRAM (KEH-M7000SDK/WG)


1
2
3
4
5
6
A
B
C
D
TEST TAPE
315Hz 160nwb/m
-73.3 dBs
HEAD UNIT : EXA1087
MECHANISM CONTROL UNIT
IC1 : BA3430FS
EQ. AMP
MTL SWITCH
Q1: 2SC4116
Q2: DTC143ZU
Q3: DTBL13ZP
Q4: 2SC3295
Q5: 2SB1441JU
Q6: 2SC3295
Q7: 2SB1441JU
MOTOR UNIT EXA1089
CONNECTOR P.C. BOARD
SWITCH P.C. BOARD
METAL SWITCH S1
PLAY SWITCH S2
LOAD SWITCH S1
END SWITCH S2
F/R SWITCH S3
MOTHER P.C. BOARD
DOLBY NR P.C. BOARD
-24.5 dBs
-10.1 dBs
DOLBY NR
IC301 : HA12088ANT
T301
T302
DOLBY NR ON/OFF
Q614 : 2SD1859
Q615 : 2SB1243
Q613 : DTC143ES
Q612 : DTC143ES
-24 dBs
Q601 : DTC363TS
Q602
D601 DAP209S
-23.8dBs
Q617 : 2SC2458
Q605 : DTC363TS
Q606
Q603 : DTC363TS
Q604
Q609 : 2SC2458
Q610
IC601 : KHA159A
ELECTRONIC VOL. + MIX AMP
-8.5 dBs
AMP P.C. BOARD
IC602 : μPC4570C
Q611 : 2SD1859
FM/AM TUNER UNIT
ANTENNA JACK
IC802 : KHA142
Q802 : 2SC2458
Q801 : 2SD1859
Q504 : 2SC2458
Q503 : DTC144ES
Q501 : 2SC3113
IC501 : LC7218
PLL
Q505 : DTC144ES
Q510 : 2SC2458
Q514 : DTC144ES
Q508 : 2SB1243
Q509 : 2SB1243
Q507 : 2SB1243
Q506 : 2SC2458
Q512 : 2SC2458
Q513 : 2SK330
LOOP FILTER
Q511 : 2SD1859
Q515 : 2SC2458
Q518 : 2SC3113
Q616 : DTC144ES
Q619 : DTC144ES
Q750 : DTA144ES
SYSTEM CONTROL
IC701 : PD4190
Q618 : 2SC2458
IB707-1
IB707-2
IB706
IB702
IB703-1
IB704
Q723 : 2SB1243
Q722 : DTA143ES
Q719 : 2SD1859
Q725 : DTA114ES
Q724 : DTC144ES
Q726 : DTC144ES
Q718 : 2SB1243
Q717 : DTC144ES
IC703 : AN6540
Q740 : 2SD1859
IC702 : S-8053ANO
Q727 : DTC144ES
Q721 : DTC144ES
Q720 : DTA114ES
BZ502
D715~720 : 1SS133
DISPLAY UNIT
LCD : CAW1061
LCD DRIVER
IC901 : LC7582P
S1~23 : CSG-255
REMOTE CONTROLLER SENSOR
IC902 : BX-1393
Q711 : DTB123ES
Q712 : DTB123ES
Q713 : DTC144ES
Q714 : DTB123ES
Q715 : DTB123ES
Q716 : DTC144ES
Q704 : 2SC2458
Q741 : 2SB1243
RESET S23

4 5 6 7 8 9


C. BOARD
-24 dBs
-10.1 dBs
DOLBY NR
IC301 : HA12088ANT
DOLBY NR ON/OFF
ELECTRONIC VOL. + MIX AMP
IC601 : KHA159A
-23.8dBs
-8.5 dBs
AMP P.C. BOARD
POWER AMP
IC551 : TA8215L
IC552 : TA8215L
-18 dBs
+22 dBs
IC602 : μPC4570C
Q611 : 2SD1859
Q618 : 2SC2458
CONTROL
IC852 : μPC4570HA
IC851 : KHA157
BUFFER
ISOLATOR
IC703 : AN6540
IC702 : S-8053ANO
BATTERY
PRE OUT
LCD DRIVER
IC901 : LC7582P
IC902 : BX-1393
REMOTE CONTROLLER SENSOR
FL-
FL+
FR-
FR+
AUTO ANT
ILM
ACC
BACK UP
RL-
RL+
GND
RR-
RR+
Q/R SWITCH
CD-M

SWITCHES:

●SWITCH P.C.BOARD

S1: METAL SWITCH····················ON—OFF

S2: PLAY SWITCH·····················ON—OFF

●CONNECTOR P.C.BOARD

S1: LOAD SWITCH·····················ON—OFF

S2: END SWITCH······················ON—OFF

S3: F/R SWITCH······················ON—OFF

The underlined indicates the switch position.

Tuner Amp Unit

Consists of
- Mother P.C.Board
- Amp P.C.Board
- Dolby NR P.C.Board

NOTE :

Indicates a chip resistor.

Indicates a chip capacitor.

Indicates a chip transistor.

Indicates a chip diode.

A

B

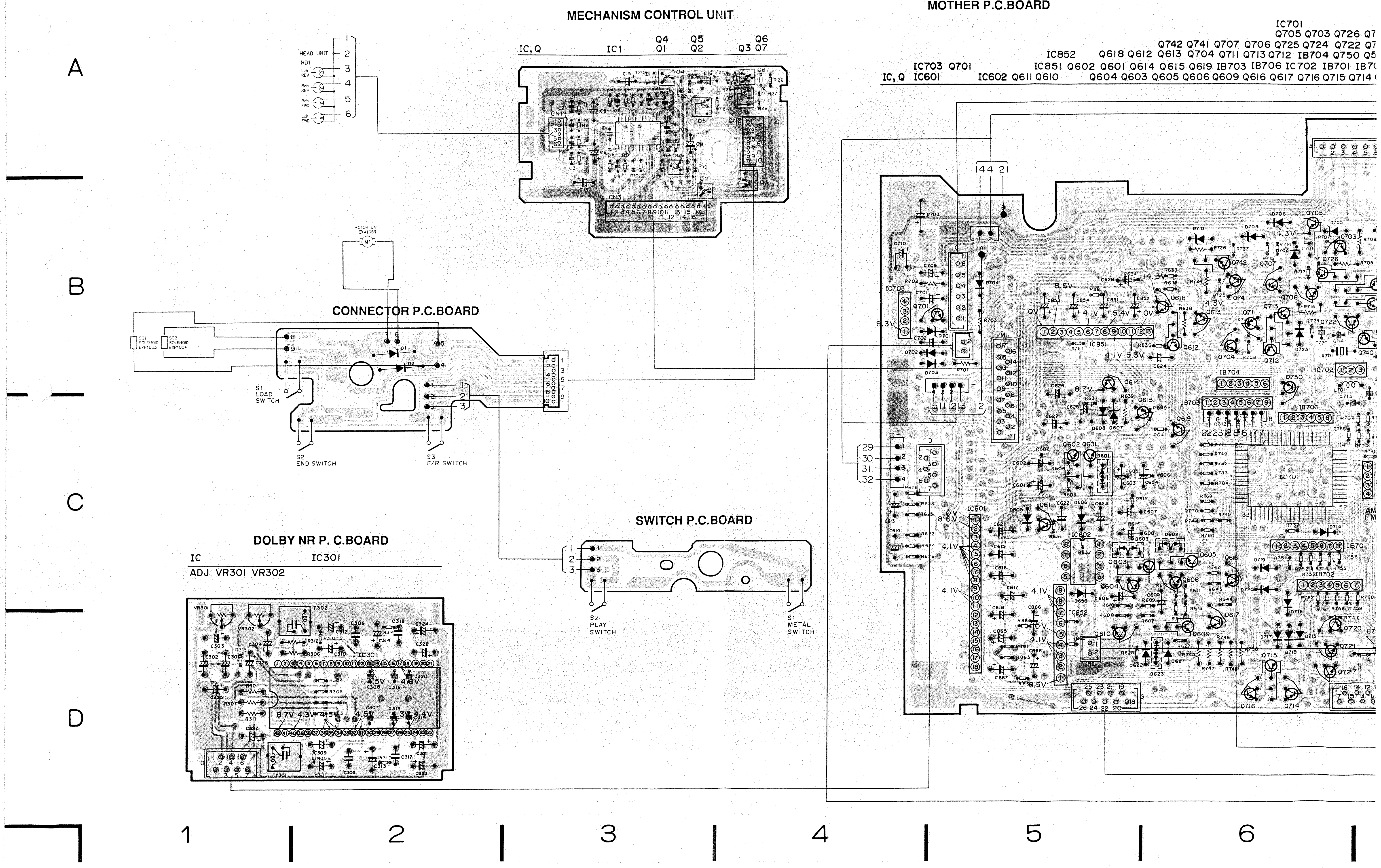
C

D

Fig. 10

4 5 6 7 8 9

9. CONNECTION DIAGRAM (KEH-M7000SDK/WG)


1
2
3
4
5
6
A
B
C
D
MECHANISM CONTROL UNIT
IC, Q
IC1
Q4
Q1
Q5
Q2
Q6
Q3 Q7
HEAD UNIT
HD1
Lch REV
Rch REV
Rch FWD
Lch FWD
CN1
CN2
CN3
MOTOR UNIT EXA1089
M1
CONNECTOR P.C.BOARD
SD1 SOLENOID EXP1003
SD2 SOLENOID EXP1004
S1 LOAD SWITCH
S2 END SWITCH
S3 F/R SWITCH
D1
D2
SWITCH P.C.BOARD
S2 PLAY SWITCH
S1 METAL SWITCH
DOLBY NR P. C.BOARD
IC
IC301
ADJ VR301 VR302
T302
T301
8.7V
4.3V
4.5V
4.4V
MOTHER P.C.BOARD
IC, Q
IC703 Q701
IC601
IC602 Q611 Q610
IC852
IC851 Q602 Q601 Q614 Q615 Q619 IB703 IB706 IC702 IB701
Q618 Q612 Q613 Q704 Q711 Q713 Q712 IB704 Q750
Q604 Q603 Q605 Q606 Q609 Q616 Q617 Q716 Q715 Q714
Q742 Q741 Q707 Q706 Q725 Q724 Q722
IC701
Q705 Q703 Q726
144 21
8.3V
8.5V
4.1V
5.4V
0V
14.3V
5.3V
8.7V
8.6V
29
30
31
32
IC701
IB704
IB703
IB706
IB701
IB702
IC702
AM
FM

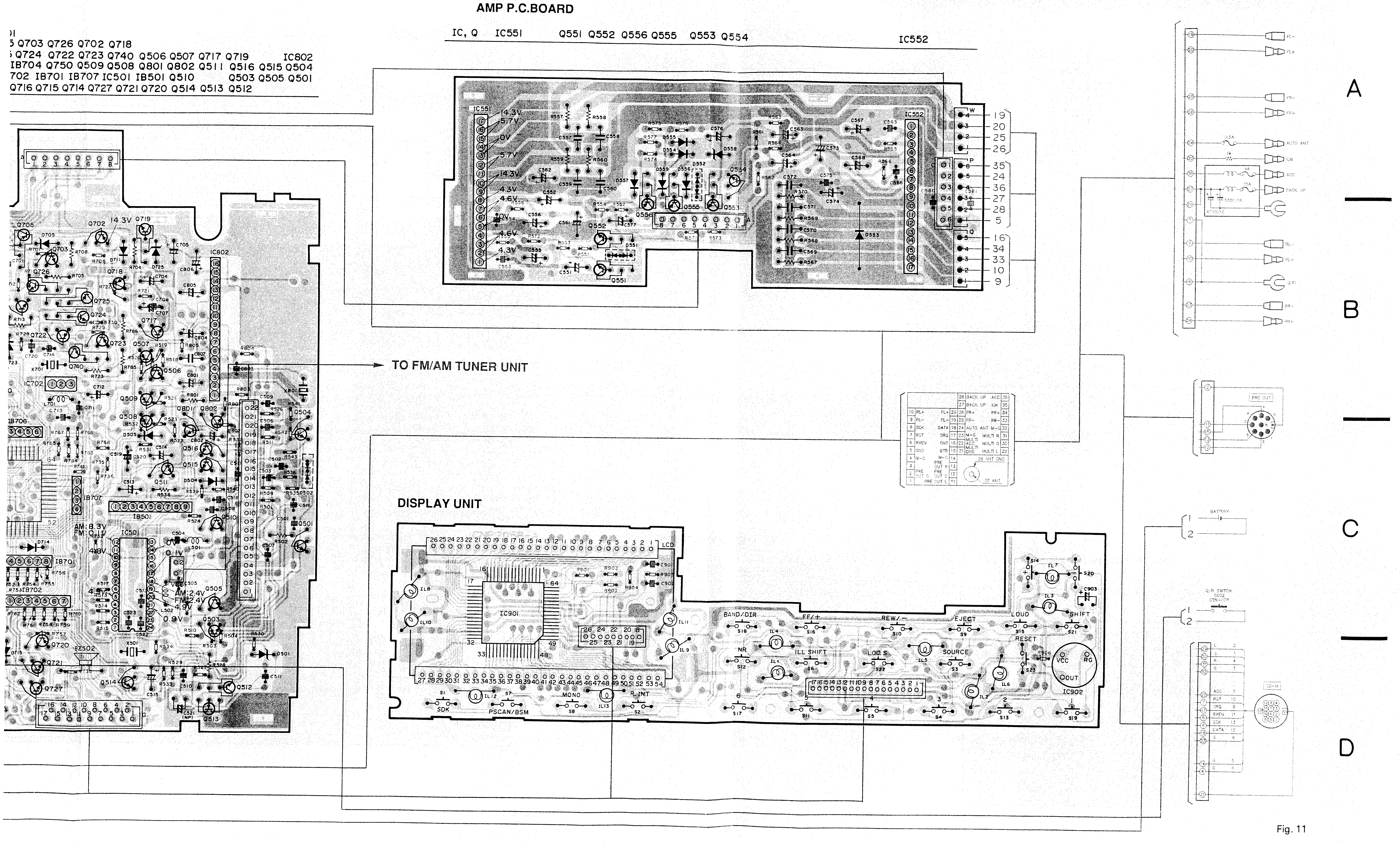
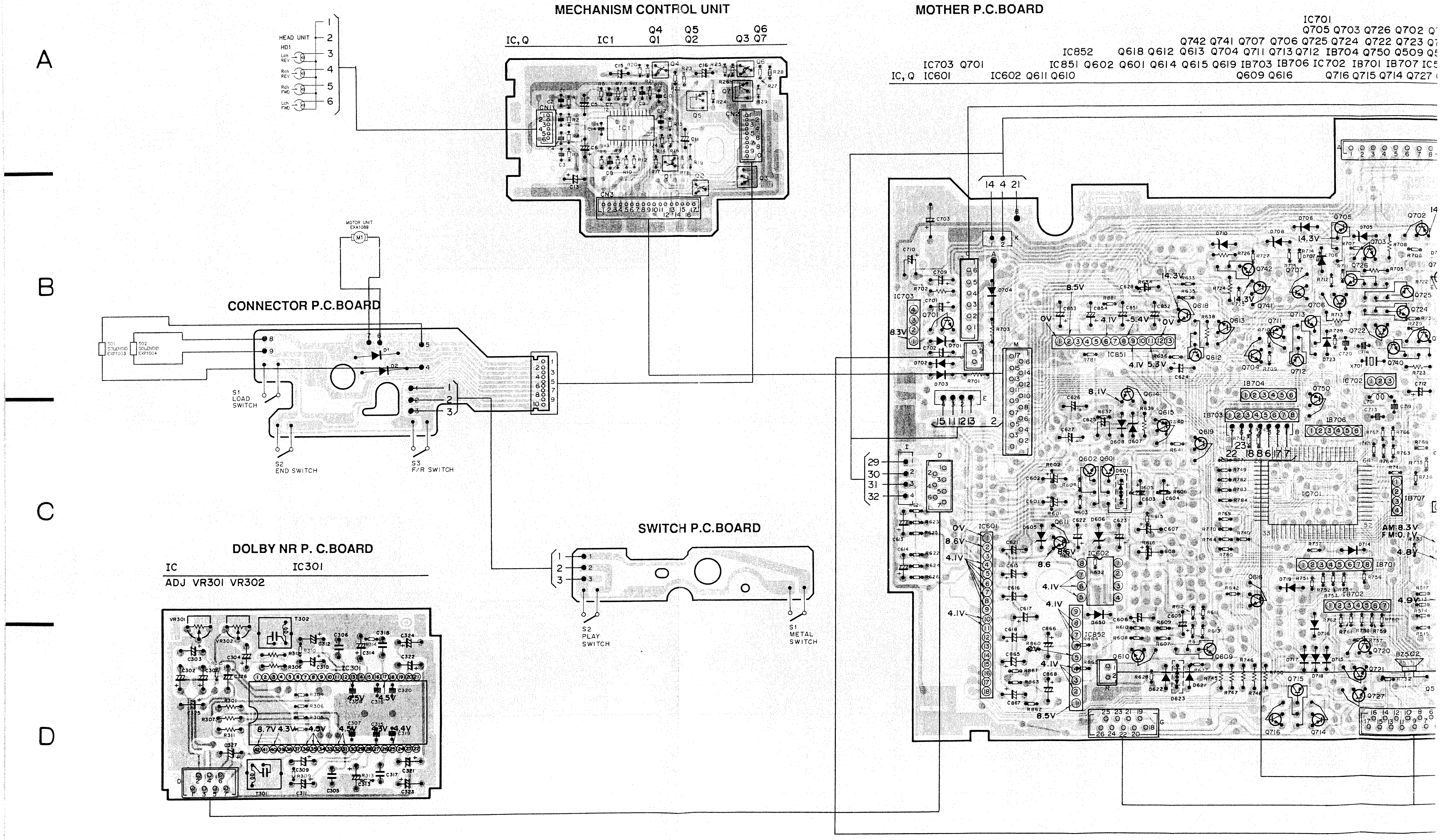

AMP P.C.BOARD
IC, Q IC551 Q551 Q552 Q556 Q555 Q553 Q554 IC552
Q703 Q726 Q702 Q718
Q724 Q722 Q723 Q740 Q506 Q507 Q717 Q719 IC802
IB704 Q750 Q509 Q508 Q801 Q802 Q511 Q516 Q515 Q504
702 IB701 IB707 IC501 IB501 Q510 Q503 Q505 Q501
Q716 Q715 Q714 Q727 Q721 Q720 Q514 Q513 Q512
TO FM/AM TUNER UNIT
DISPLAY UNIT
IC901
IC902
BAND/DIR
FF/+
REW/−
EJECT
LOUD
SHIFT
NR
ILL SHIFT
LOC S
SOURCE
RESET
SDK
PSCAN/BSM
MONO
R. INT
LCD
AM: 8.3V
FM: 0V
AM: 2.4V
FM: 2.4V
14.3V
5.7V
4.3V
4.6V
BATTERY
PRE OUT
A
B
C
D

Fig. 11

10. CONNECTION DIAGRAM (KEH-M7000B/EW)


A
B
C
D
MECHANISM CONTROL UNIT
IC, Q
IC1
Q4 Q1
Q5 Q2
Q6 Q3 Q7
CN1
CN2
CN3
MOTHER P.C.BOARD
IC, Q
IC703 Q701 IC601
IC602 Q611 Q610
IC852 IC851 Q602 Q601 Q618 Q612
Q614 Q615 Q613 Q619 Q609 Q616
Q742 Q741 Q707 Q706 Q704 Q711 Q713 Q712 IB703 IB706
IC701 Q705 Q703 Q726 Q702 Q725 Q724 Q722 Q723 IB704 Q750 Q509 IC702 IB701 IB707 Q716 Q715 Q714 Q727
HEAD UNIT
HD1
Lch REV
Rch REV
Rch FWD
Lch FWD
MOTOR UNIT EXA1089
CONNECTOR P.C.BOARD
S01 SOLENOID EXP1003
S02 SOLENOID EXP1004
S1 LOAD SWITCH
S2 END SWITCH
S3 F/R SWITCH
DOLBY NR P. C.BOARD
IC
IC301
ADJ VR301 VR302
SWITCH P.C.BOARD
S2 PLAY SWITCH
S1 METAL SWITCH
14 4 21
29
30
31
32
8.5V
14.3V
8.3V
4.1V
5.4V
5.3V
8.1V
8.6V
4.9V
AM:8.3V
FM:0.1V
8.7V 4.3V 4.3V 4.5V 4.4V

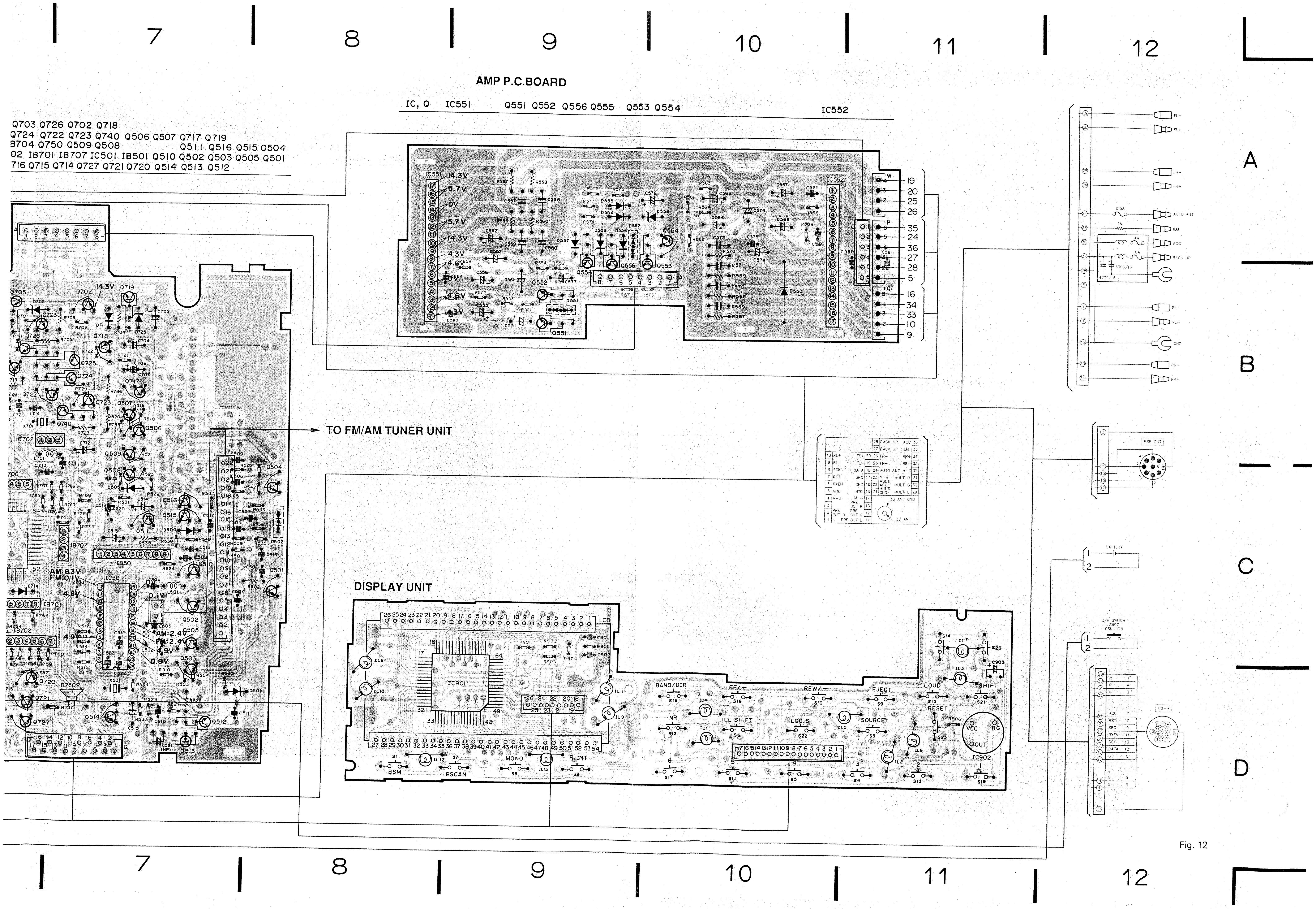
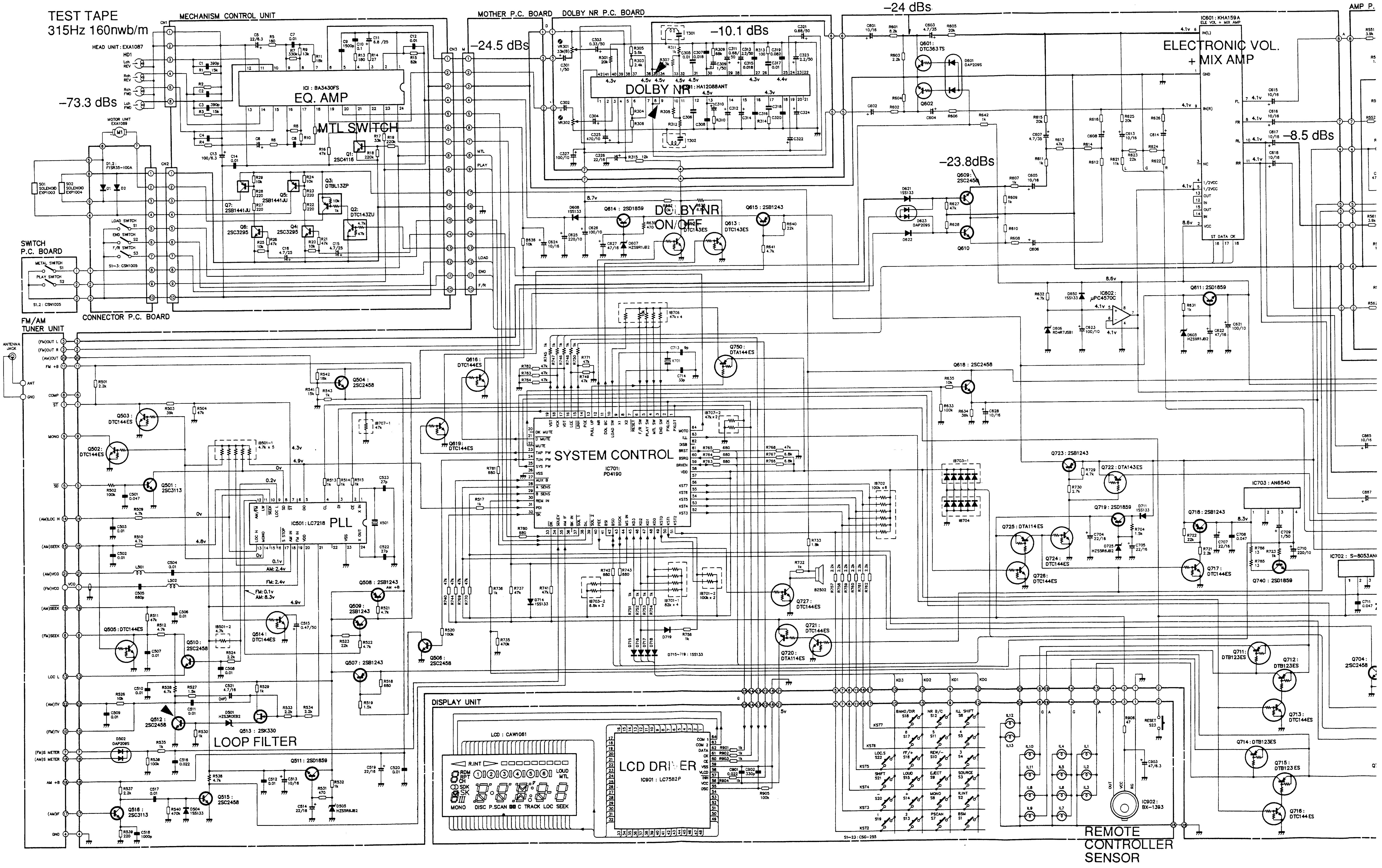
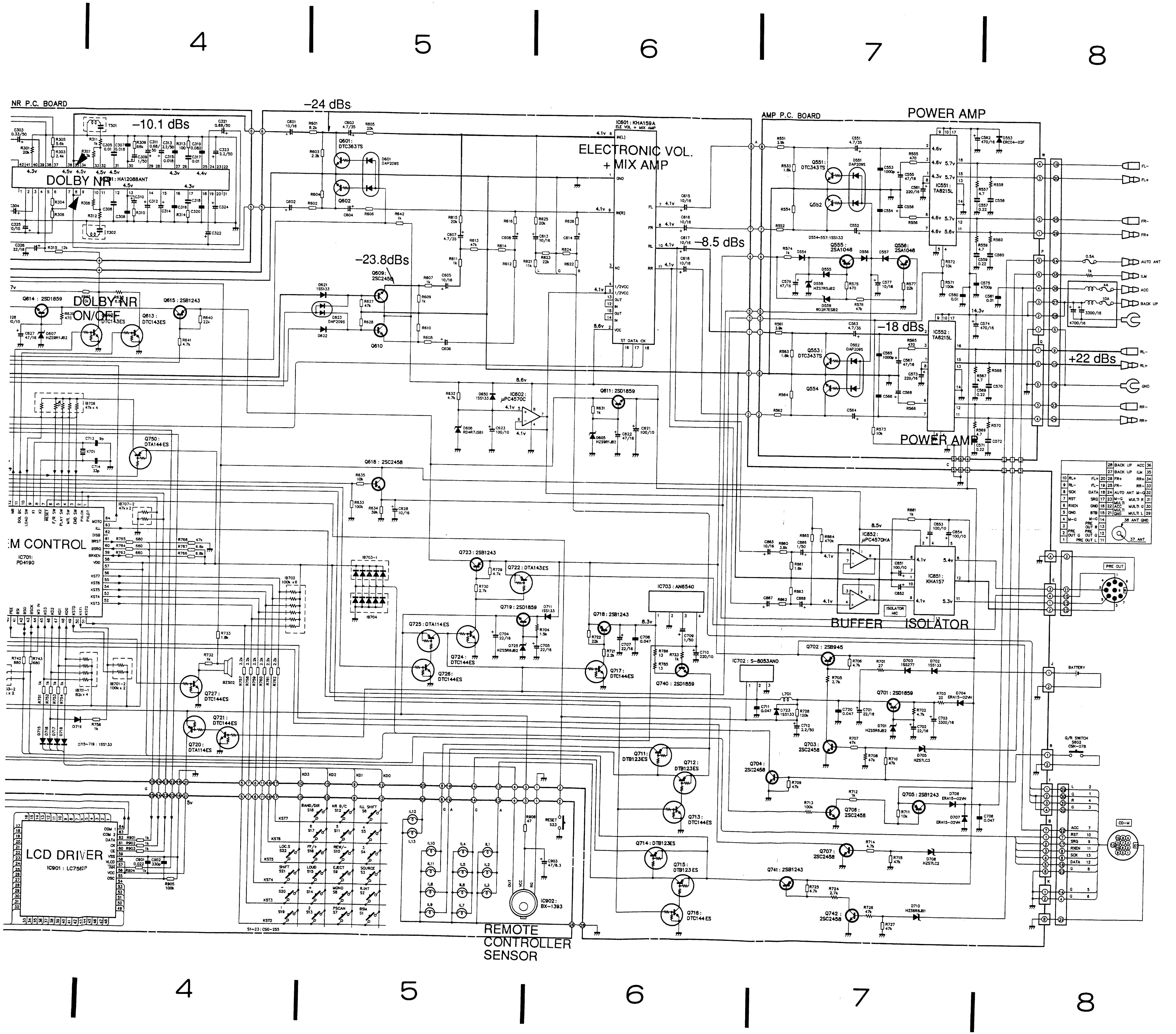

7
8
9
10
11
12
A
B
C
D
AMP P.C.BOARD
IC, Q IC551 Q551 Q552 Q556 Q555 Q553 Q554 IC552
Q703 Q726 Q702 Q718
Q724 Q722 Q723 Q740 Q506 Q507 Q717 Q719
B704 Q750 Q509 Q508 Q511 Q516 Q515 Q504
02 IB701 IB707 IC501 IB501 Q510 Q502 Q503 Q505 Q501
716 Q715 Q714 Q727 Q721 Q720 Q514 Q513 Q512
IC551
14.3V
5.7V
0V
5.7V
14.3V
4.3V
4.6V
0V
4.6V
4.3V
IC552
19 20 25 26 35 24 36 27 28 5 16 34 33 10 9
TO FM/AM TUNER UNIT
14.3V
AM:8.3V
FM:0.1V
4.8V
4.9V
0.9V
AM:2.4V
FM:2.9V
4.9V
0.9V
IC501
IB501
IB707
IB701
IB702
BZ502
28 BACK UP ACC 36
27 BACK UP ILM 35
10 RL+ FL+ 20 26 FR+ RR+ 34
9 RL− FL− 19 25 FR− RR− 33
8 SCK DATA 18 24 AUTO ANT M−G 32
7 RST SRQ 17 23 M−G MULTI R 31
6 RXEN GND 16 22 MULTI ACC MULTI G 30
5 GND BTB 15 21 MULTI GND MULTI L 29
4 M−G M−G 14
3 PRE OUT R 13
2 PRE OUT G PRE OUT G 12
1 PRE OUT L 11
38 ANT GND
37 ANT
FL− FL+ FR− FR+
0.5A AUTO ANT
1k ILM
4A ACC
10A BACK UP
3300/16
4700/16
RL− RL+ GND RR− RR+
PRE OUT
BATTERY
Q/R SWITCH
S602
CSN-078
CD-M
L G R G ACC RST SRQ RXEN SCK DATA G G G
DISPLAY UNIT
LCD
IC901
IC902
VCC RG OUT
BAND/DIR S18
FF/+ S16
REW/− S10
EJECT S9
LOUD S15
SHIFT S21
RESET S23
NR S12
ILL SHIFT S6
LOC.S S22
SOURCE S3
BSM S1
PSCAN S7
MONO S8
R.INT S2
6 S17
5 S11
4 S5
3 S4
2 S13
1 S19
S14 S20
IL1 IL2 IL3 IL4 IL5 IL6 IL7 IL8 IL9 IL10 IL11 IL12 IL13

Fig. 12

11. SCHEMATIC CIRCUIT DIAGRAM (KEH-M7000B/EW)


TEST TAPE
315Hz 160nwb/m
MECHANISM CONTROL UNIT
HEAD UNIT : EXA1087
-73.3 dBs
IC1 : BA3430FS
EQ. AMP
MTL SWITCH
MOTHER P.C. BOARD
DOLBY NR P.C. BOARD
-24.5 dBs
-10.1 dBs
DOLBY NR
IC301 : HA12088ANT
-24 dBs
IC601 : KHA159A
ELECTRONIC VOL. + MIX AMP
-8.5 dBs
-23.8dBs
DOLBY NR ON/OFF
AMP P.
SWITCH P.C. BOARD
CONNECTOR P.C. BOARD
FM/AM TUNER UNIT
ANTENNA JACK
IC602 : μPC4570C
SYSTEM CONTROL
IC701 : PD4190
IC501 : LC7218
PLL
IC703 : AN6540
IC702 : S-8053AN
LOOP FILTER
DISPLAY UNIT
LCD : CAW1061
LCD DRIVER
IC901 : LC7582P
IC902 : BX-1393
REMOTE CONTROLLER SENSOR
S1~23 : CSG-255


4
5
6
7
8
9
NR P.C. BOARD
-10.1 dBs
DOLBY NR
IC301 : HA12088ANT
-24 dBs
IC601 : KHA159A
ELECTRONIC VOL. + MIX AMP
-23.8dBs
-8.5 dBs
DOLBY NR ON/OFF
AMP P.C. BOARD
POWER AMP
IC551 : TA8215L
IC552 : TA8215L
-18 dBs
+22 dBs
IC602 : µPC4570C
IC852 : µPC4570HA
IC851 : KHA157
BUFFER
ISOLATOR
IC703 : AN6540
IC702 : S-8053ANO
M CONTROL
IC701 : PD4190
LCD DRIVER
IC901 : LC7582P
IC902 : BX-1393
REMOTE CONTROLLER SENSOR
PRE OUT
BATTERY
CD-M
4
5
6
7
8
9

A

B

C

D

SWITCHES:

●SWITCH P.C.BOARD

S1: METAL SWITCH······················ON—OFF

S2: PLAY SWITCH·······················ON—OFF

●CONNECTOR P.C.BOARD

S1: LOAD SWITCH·······················ON—OFF

S2: END SWITCH························ON—OFF

S3: F/R SWITCH························ON—OFF

The underlined indicates the switch position.

Tuner Amp Unit

Consists of

- Mother P.C.Board
- Amp P.C.Board
- Dolby NR P.C.Board

NOTE :

—▭— Indicates a chip resistor.

—▮— Indicates a chip capacitor.

—⊠— Indicates a chip transistor.

—▶|— Indicates a chip diode.

Fig. 13

12. FM/AM TUNER UNIT

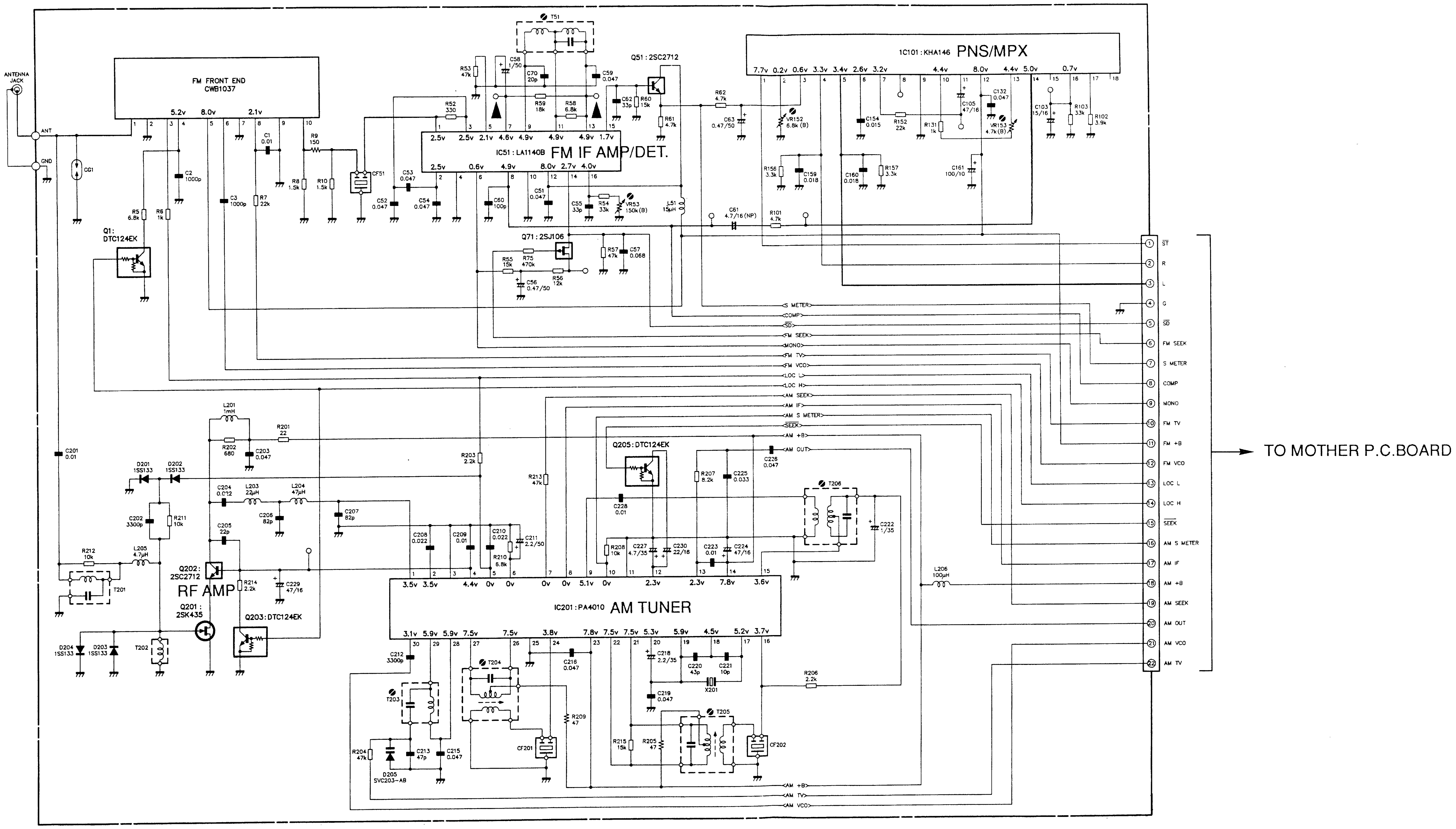
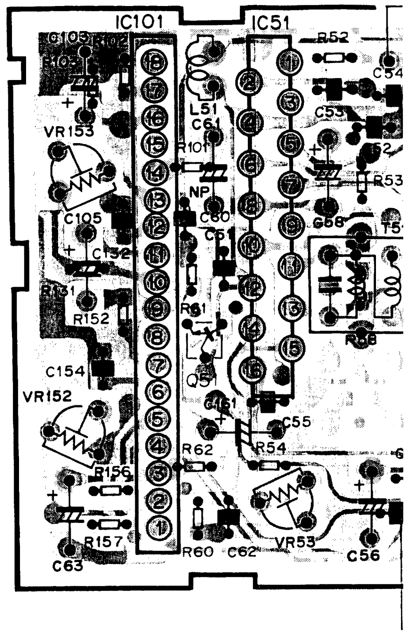
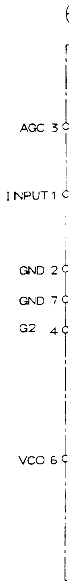

ANTENNA JACK
ANT
GND
CG1
FM FRONT END CWB1037
5.2v 8.0v 2.1v
Q1: DTC124EK
T51
Q51 : 2SC2712
IC51 : LA1140B FM IF AMP/DET.
CF51
Q71 : 2SJ106
VR53 150k (B)
L51 15μH
IC101 : KHA146 PNS/MPX
VR152 6.8k (B)
VR153 4.7k (B)
C61 4.7/16 (NP)
S METER
COMP
SD
FM SEEK
MONO
FM TV
FM VCO
LOC L
LOC H
AM SEEK
AM IF
AM S METER
SEEK
AM +B
AM OUT
Q205 : DTC124EK
T206
L201 1mH
D201 1SS133
D202 1SS133
Q202: 2SC2712
RF AMP
Q201 : 2SK435
Q203 : DTC124EK
T201
T202
D204 1SS133
D203 1SS133
IC201 : PA4010 AM TUNER
T203
T204
T205
CF201
CF202
X201
D205 SVC203-A8
L206 100μH
AM +B
AM TV
AM VCO
① ST
② R
③ L
④ G
⑤ SD
⑥ FM SEEK
⑦ S METER
⑧ COMP
⑨ MONO
⑩ FM TV
⑪ FM +B
⑫ FM VCO
⑬ LOC L
⑭ LOC H
⑮ SEEK
⑯ AM S METER
⑰ AM IF
⑱ AM +B
⑲ AM SEEK
⑳ AM OUT
㉑ AM VCO
㉒ AM TV
TO MOTHER P.C.BOARD

Fig. 14

IC,Q	Q51	IC101	IC51
ADJ		VR153 VR152	VR53 T51


IC101
IC51
R52
VR153
L51
C61
R101
NP
C105
C132
C60
R152
R61
C154
VR152
Q51
R62
C55
R54
R156
R157
VR53
C63
R60
C62
C56

• FM FRON


AGC 3
INPUT 1
GND 2
GND 7
G2 4
VCO 6

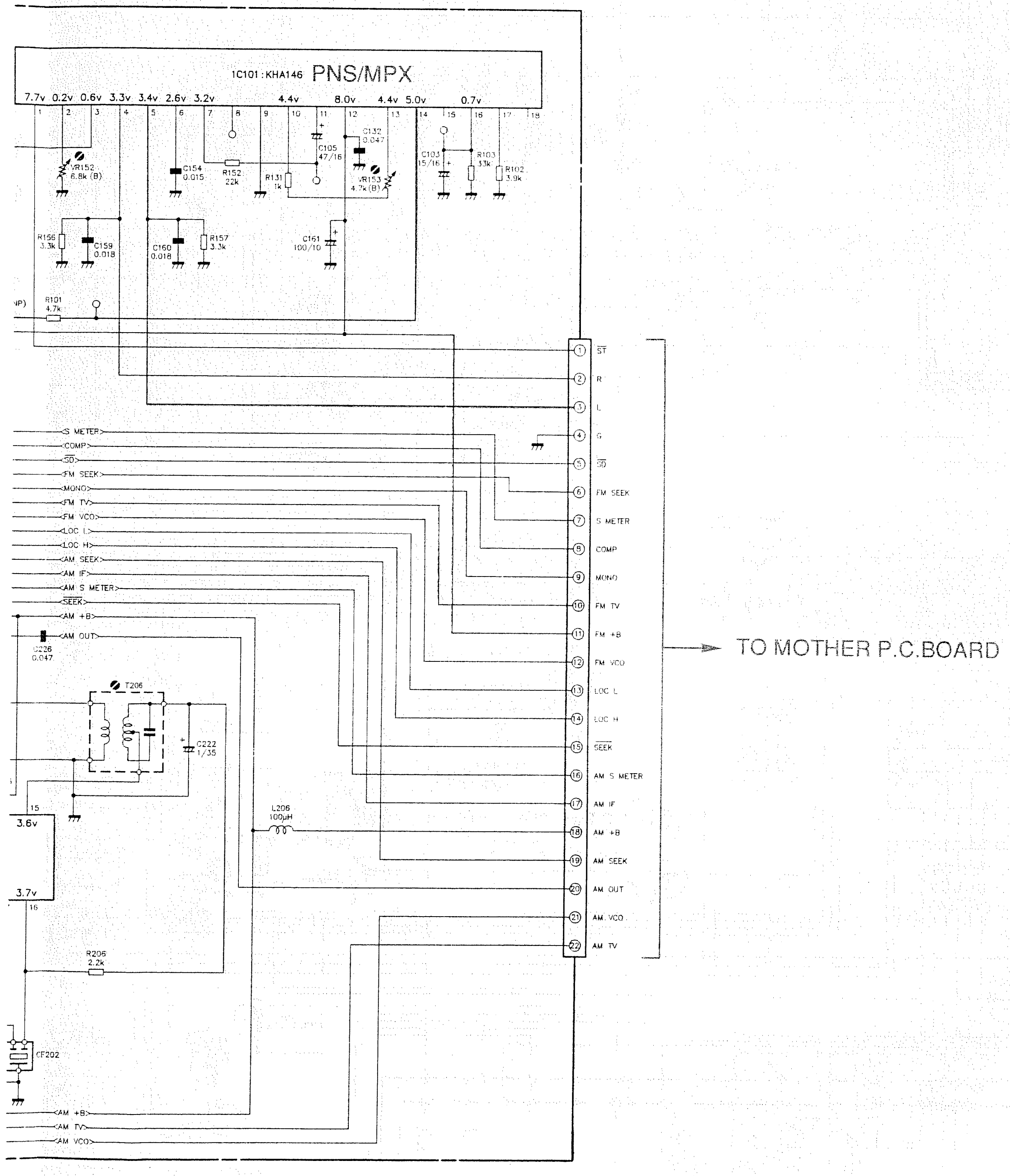
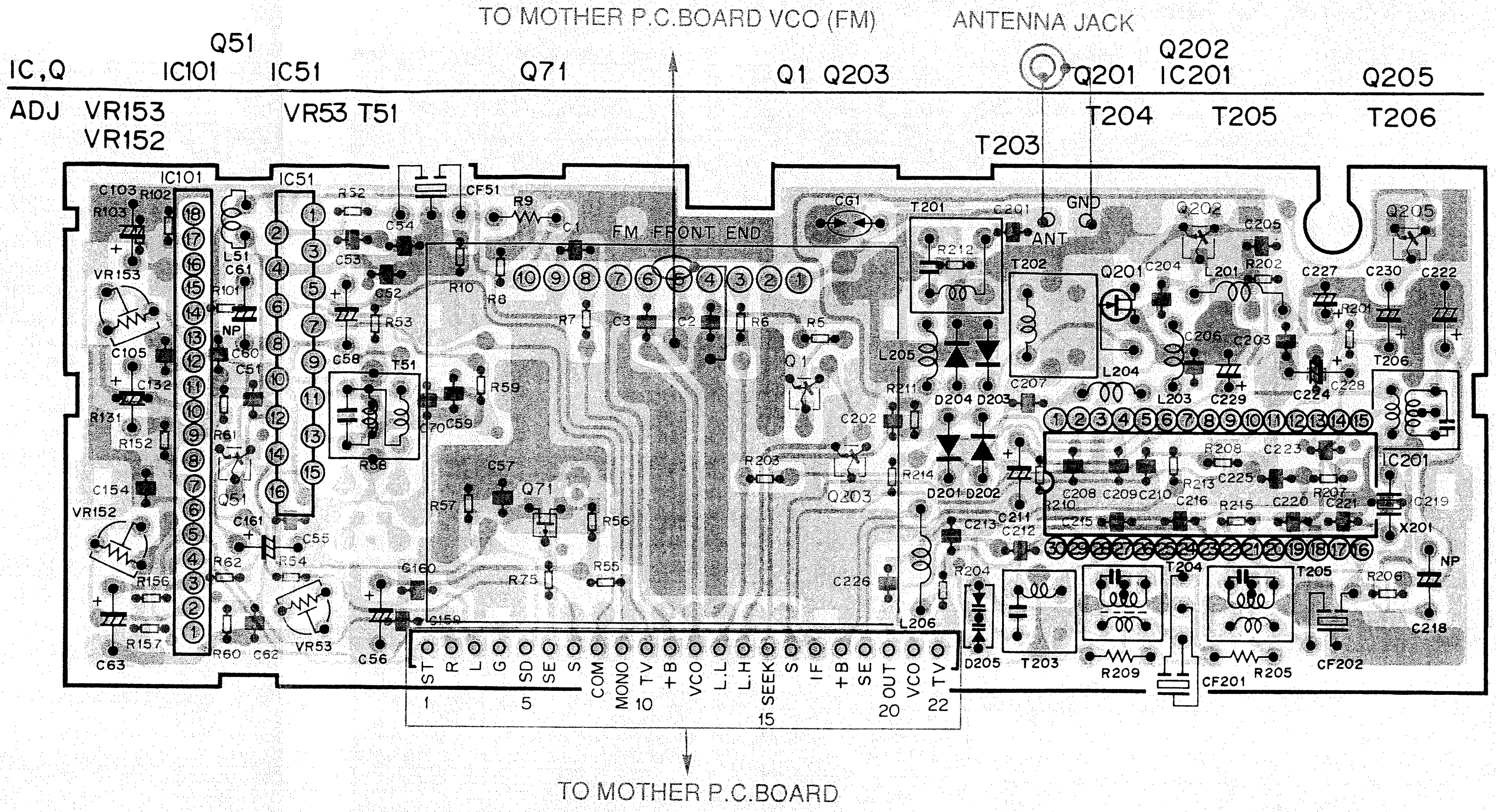
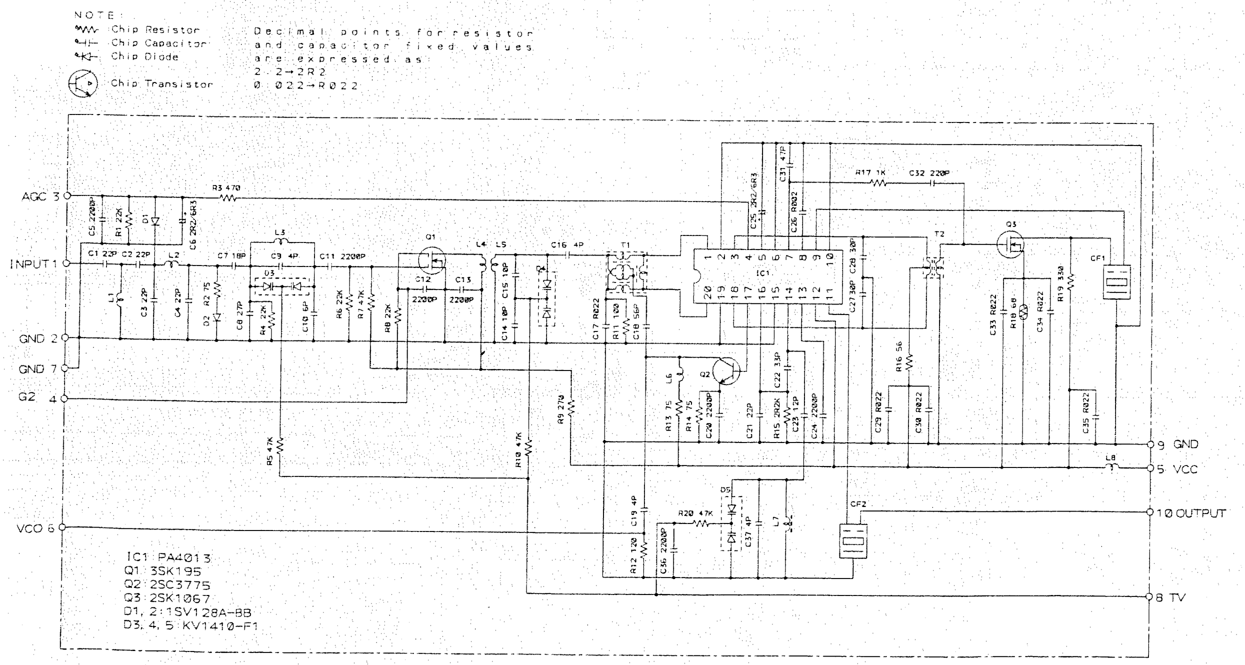

IC101 : KHA146 PNS/MPX
TO MOTHER P.C.BOARD
ST
R
L
G
SD
FM SEEK
S METER
COMP
MONO
FM TV
FM +B
FM VCO
LOC L
LOC H
SEEK
AM S METER
AM IF
AM +B
AM SEEK
AM OUT
AM VCO
AM TV
T206
C222 1/35
L206 100μH
R206 2.2k
CF202

Fig. 14


TO MOTHER P.C.BOARD VCO (FM)
ANTENNA JACK
IC,Q
ADJ
Q51
IC101
IC51
Q71
Q1 Q203
Q202
Q201 IC201
Q205
VR153
VR152
VR53 T51
T203
T204
T205
T206
FM FRONT END
ANT
GND
TO MOTHER P.C.BOARD

• FM FRONT END (CWB1037)

Fig. 15


NOTE:

Chip Resistor

Chip Capacitor

Chip Diode

Chip Transistor

Decimal points for resistor and capacitor fixed values are expressed as:

2.2→2R2

0.022→R022

IC1 PA4013

Q1 3SK195

Q2 2SC3775

Q3 2SK1067

D1, 2:1SV128A-BB

D3, 4, 5 KV1410-F1

AGC 3
INPUT 1
GND 2
GND 7
G2 4
VCO 6
9 GND
5 VCC
10 OUTPUT
8 TV
IC1
R3 470
R17 1K
C32 220P
CF1
CF2
T1
T2

Fig. 16

13. CHASSIS EXPLODED VIEW

• Parts List

NOTE:

- *For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.*
  ★ ★: GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Remote Control Assy	CXA2860		36	Cushion	
	2	Cover	CZN3224		37	Lens	CNV2288
	3	Screw	BMZ26P050FMC		38	Cushion	
◉	4	Cassette Mechanism Assy	EXK1420	★	39	Button	CAC1988
	5	Arm	CNV2078	★	40	Button	CAC1987
◉	6	Mechanism Control Unit	CWM1968	★	41	Button	CAC1989
	7	Connector		★	42	Button	CAC1990
	8	Connector			43	Spacer	
	9	Connector		★	44	Button	CAC1831
	10	Screw	CBA1022	★	45	Button	CAC1830
	11	Case		★	46	Button	CAC1832
	12	·····		★	47	Button	CAC1998
	13	Insulator		★	48	Button	CAC1833
◉	14	FM/AM Tuner Unit	CWE1146	★	49	Button	CAC1834
	15	Plug		★	50	Button	CAC1804
	16	FM Front End	CWB1037		51	Stopper	
	17	Insulator			52	Spacer	
	18	Antenna Jack	CKX1010		53	Shaft	
	19	Chassis		★	54	Button	CAC1991
	20	Insulator		★	55	Button	CAC1992
	21	Screw	BPZ20P060FMC	★	56	Button	CAC1993
◉	22	Display Unit	CWS1145	★	57	Button	CAC1994
	23	Spacer	CNM1642	★	58	Button	CAC1995
	24	Bush	CNV-724	★	59	Button	CAC1996
★★	25	Lamp	CEL-147	★	60	Button	CAC1997
★★	26	Lamp	CEL1004		61	Grille Assy (WG)	CXA2936
	27	P. C. Board	CNP2094			Grille Assy (EW)	CXA2937
	28	P. C. Board	CNP2093		62	Spring	CBH1215
★★	29	Lamp	CEL1115		63	Door	CAT1187
	30	Housing	CNV2046		64, 65	·····	
	31	Lens	CNV2045		66	Screw	BMZ30P100FMC
	32	Half Mirror	CNM2314		67	Holder	
	33	LCD	CAW1061	★★	68	IC	TA8215L
	34	Insulator			69	Heat Sink	
	35	Cover			70	Connector	

Mark	No.	Description	Part No.
	71	Connector	
	72, 73	·····	
	74	Holder	
	75	Plug	
	76	Clamper	
	77	Plug	
	78	Connector	CKS1265
	79	Connector	CKS1257
	80	Plug	
	81	Plug	
	82	Plug	
	83	·····	
	84	Connector	
	85	·····	
	86	Plug	
	87	Plug	
	88	Holder	
★★	89	IC	AN6540
	90	Screw	BMZ30P040FMC
	91	Plug	
	92	Holder	
	93—104	·····	
	105	Insulator	
	106	Screw	BMZ30P060FMC
	107	·····	
	108	Chassis Unit(WG)	
		Chassis Unit(EW)	
	109	·····	
	110	Cap	CNS1472
	111	Resistor	RS1/2P102JL
◉	112	Tuner Amp Unit(WG)	CWM1844
◉		Tuner Amp Unit(EW)	CWM1843
	113	Plug	
	114	Connector	
	115	Cord Assy	CDE2303
	116	Holder	
	117	Spacer	
◉	118	Handle Assy	CXA2944
	119	Screw	CBA1109
	120	Cover	CNS1807
	121	Box	CNB1273
	122	Cord Assy	CDE2300
	123	Screw	CBA1073
	124	Screw	BMZ30P030FMC
	125	Clamper	
	126	Air Cushioned Bag	CEG1053
	127	Holder Unit	
	128	Connector	
★★	129	Switch	CSN-078
	130	Holder	
	131	Screw	CBA-172

• Chassis

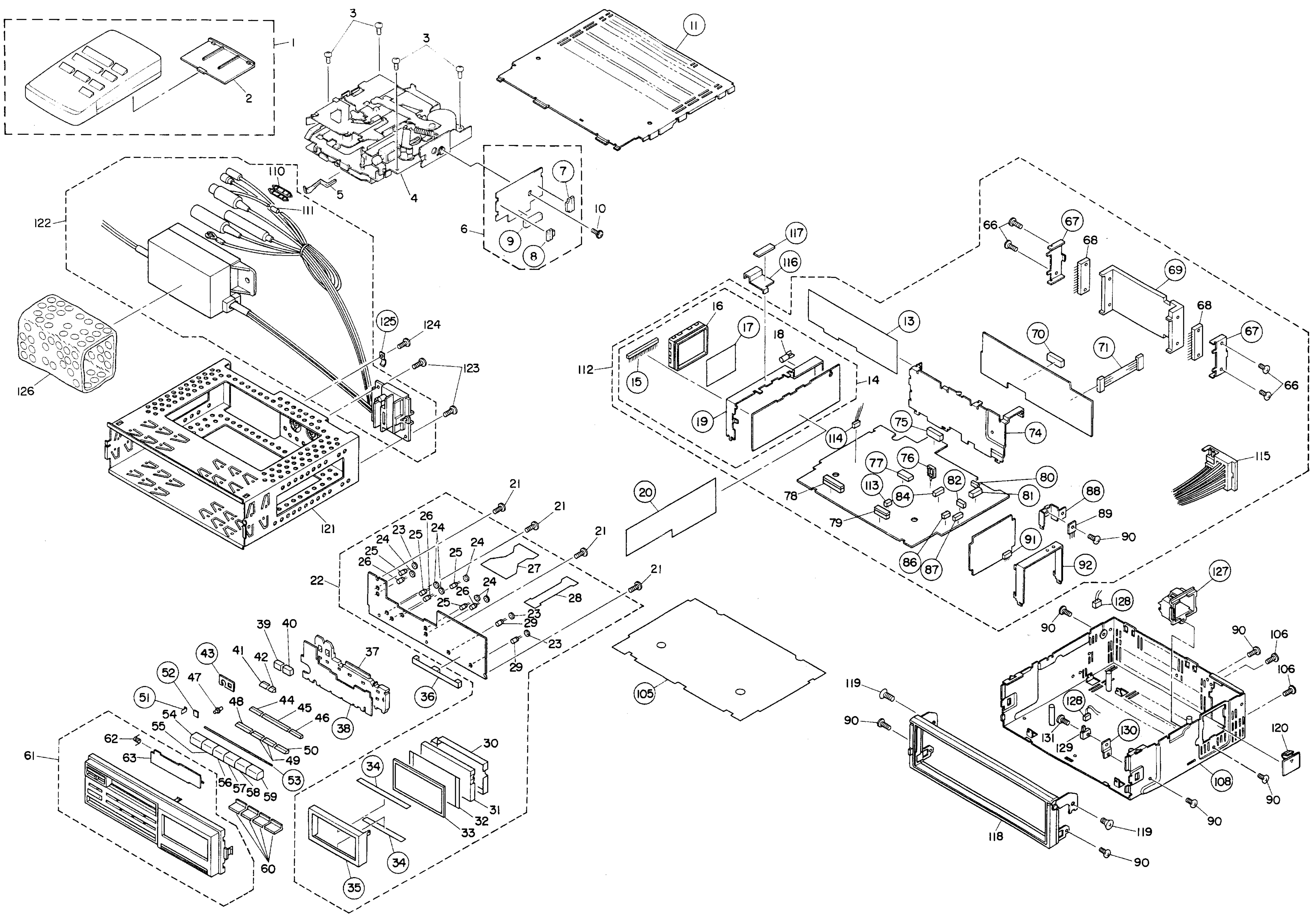

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Fig. 17

14. CASSETTE MECHANISM ASSY EXPLODED VIEW

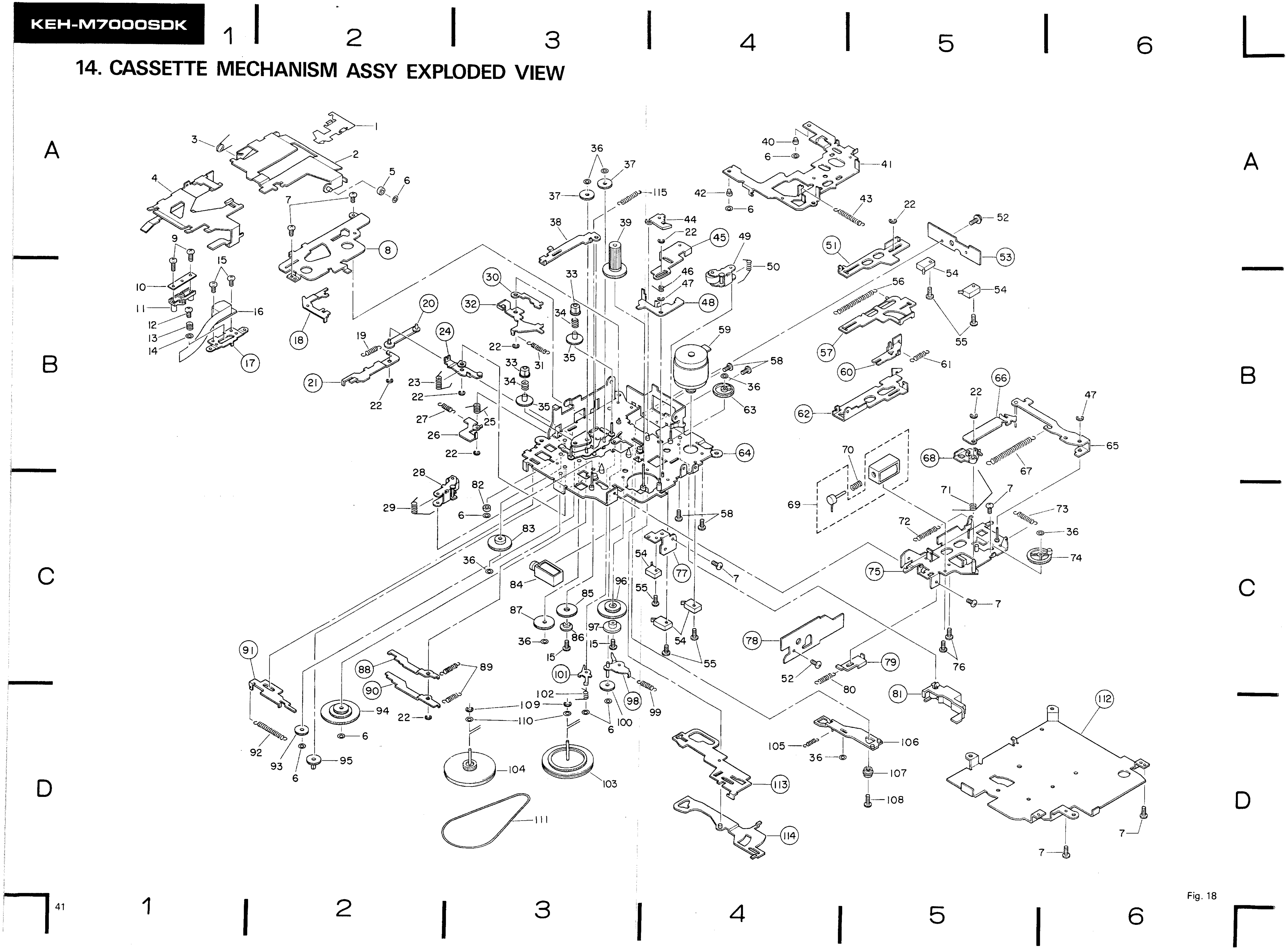
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Fig. 18

- **Parts List**

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Lever	ENV1124		41	Head Base Unit	EXA1071
	2	Arm Unit	EXA1081		42	Roller	ELA1147
	3	Spring	EBH1152		43	Spring	EBH1131
	4	Cassette Holder	ENC1165		44	Arm	ENV1121
	5	Roller	ELA1148		45	Lever Unit	
	6	Washer	CBF1037		46	Spring	EBH1153
	7	Screw	BMZ20P030FMC		47	Washer	YE20FUC
	8	Cover			48	Arm	
	9	Screw	EBA1016	★★	49	Pinch Roller Unit	EXA1072
	10	Spring	EBL1011		50	Spring	EBH1133
	11	Spacer	ENV1105		51	Lever	
	12	Screw	BMZ20P025FMC		52	Screw	CBA1076
	13	Spring	EBH1145		53	P.C.Board	
	14	Washer	EBE1005	★★	54	Switch	CSN1005
	15	Screw	HBA-175		55	Screw	CBA1070
★★	16	Head Unit	EXA1087		56	Spring	EBH1147
	17	Arm			57	Lever	
	18	Arm			58	Screw	PMS20P025FM
	19	Spring	EBH1143	★★	59	Motor Unit	EXA1089
	20	Lever Unit			60	Lever	
	21	Arm			61	Spring	EBH1149
	22	Washer	YE15FUC		62	Lever	
	23	Spring	EBH1154		63	Gear	ENV1106
	24	Arm Unit			64	Chassis Unit	
	25	Spring	EBH1138		65	Arm Unit	EXA1082
	26	Arm	ENV1122		66	Arm	
	27	Spring	EBH1142		67	Spring	EBH1146
★★	28	Pinch Roller Unit	EXA1073		68	Clamper	
	29	Spring	EBH1134	★	69	Solenoid	EXP1004
	30	Arm			70	Spring	EBH1157
	31	Spring	EBH1144		71	Spring	EBH1151
	32	Arm			72	Spring	EBH1148
	33	Collar	ENV1117		73	Spring	EBH1135
	34	Spring	EBH1155		74	Gear	ENV1118
★★	35	Gear	ENV1116		75	Guide Unit	
	36	Washer	CBF1038		76	Screw	PMS20P022F
	37	Gear	ENV1115		77	Bracket	
	38	Lever Unit	EXA1074		78	P.C.Board	
	39	Gear	ENV1107		79	Arm	
	40	Roller	ELA1146		80	Spring	EBH1158

Mark	No.	Description	Part No.
	81	Clamper	
	82	Roller	ELA1149
	83	Gear	ENV1111
★	84	Solenoid	EXP1003
	85	Gear	ENV1109
	86	Collar	ELA1152
	87	Gear	ENV1110
	88	Arm	
	89	Spring	EBH1136
	90	Arm	
	91	Lever	
	92	Spring	EBH1137
	93	Gear	ENV1112
	94	Gear Unit	EXA1083
	95	Gear	ENV1113
	96	Gear	ENV1108
	97	Collar	ELA1151
	98	Arm Unit	
	99	Spring	EBH1141
	100	Gear	ENV1114

Mark	No.	Description	Part No.
	101	Arm	
	102	Spring	EBH1140
	103	Flywheel	ENV1127
	104	Flywheel	ENV1128
	105	Spring	EBH1159
	106	Arm	ENV1119
	107	Collar	ELA1150
	108	Screw	HBA-183
	109	E Type Washer	CBG1003
	110	Washer	HBF-179
★★	111	Belt	ENT1011
	112	Cover	
	113	Lever	
	114	Arm Unit	
	115	Spring	EBH1139

15. ELECTRICAL PARTS LIST

NOTE:

- *For your parts Stock Control, the fast moving items are indicated with the marks ** and *.*
  *** : GENERALLY MOVES FASTER THAN *.*
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*
  Chip Resistor
  RS1/8S □□□J, RS1/10S □□□J
  Chip Capacitor (except for CQS.....)
  CKS....., CCS....., CSZS.....

Tuner Amp Unit
Consists of ●Mother P.C.Board ●Amp P.C.Board ●Dolby NR P.C.Board

Unit Number :
Unit Name : Tuner Amp Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 301		HA12088ANT
**	IC 501		LC7218
**	IC 551 552		TA8215L
**	IC 601		KHA159A
**	IC 602		μPC4570C
**	IC 701		PD4190
**	IC 702		S-8053ANO
**	IC 703		AN6540
**	IC 802 (KEH-M7000SDK)		KHA142
**	IC 851		KHA157
**	IC 852		μPC4570HA
**	Q 501 516		2SC3113
**	Q 502 (KEH-M7000B)		DTC144ES
**	Q 503 505 514 616 619 713 716 717 721 724		DTC144ES
**	Q 504 506 510 512 515 609 610 618 703		2SC2458
**	Q 507 508 509 615 705 718 723 741		2SB1243
**	Q 511 611 614 701 719 740		2SD1859
**	Q 513		2SK330
**	Q 551 552 553 554		DTC343TS
**	Q 555 556		2SA1048
**	Q 601 602		DTC363TS
**	Q 603 (KEH-M7000SDK) 604 (KEH-M7000SDK)		DTC363TS
**	Q 605 (KEH-M7000SDK) 606 (KEH-M7000SDK)		DTC363TS
**	Q 612 613		DTC143ES
**	Q 617 (KEH-M7000SDK)		2SC2458
**	Q 702		2SB945
**	Q 704 706 707 742		2SC2458
**	Q 711 712 714 715		DTB123ES
**	Q 720 725		DTA114ES
**	Q 722		DTA143ES
**	Q 726 727		DTC144ES
**	Q 750		DTA144ES
**	Q 801 (KEH-M7000SDK)		2SD1859
**	Q 802 (KEH-M7000SDK)		2SC2458
*	D 501		HZS3R0EB2
*	D 502 551 552 601 623		DAP209S
*	D 504 554 555 556 557 608 621 622 650 702		1SS133
*	D 505 701 725		HZS5R6JB2
*	D 553		ERC04-02F
*	D 558		HZS7R5JB2
*	D 559		RD2R7ESB2
*	D 602 (KEH-M7000SDK) 603 (KEH-M7000SDK)		DAP209S
*	D 605 607		HZS9R1JB2
*	D 606		RD4R7JSB1
*	D 703		1SS277
*	D 704 706 707		ERA15-02VH
*	D 705		HZS7LC3
*	D 708		HZS7LC2
*	D 710		HZS6R8JB1
*	D 711 714 715 716 717 718 719 723		1SS133
*	D 720 (KEH-M7000SDK)		1SS133
	L 501	Ferri-Inductor	LAU2R2M
	L 502	Ferri-Inductor	LAUR22M
	L 701	Ferri-Inductor	LAU101K
	T 301 302	Coil	CTF1072
	IB 501		CWW1272
	IB 701		CWW1273
	IB 702		CWW1274
	IB 703		CWW1277
	IB 704		CWW1128

Mark	Circuit Symbol & No.	Part Name	Part No.
	IB 706		CWW1276
	IB 707		CWW1049
	X 501	Crystal Resonator	CSS1030
	X 701	Crystal Resonator	CSS1023
	X 801 (KEH-M7000SDK)	Ceramic Resonator	CSS1019
**	VR 301 302	Semi-fixed 33kΩ (B)	CCP-381
	BZ 502	Buzzer	CPV1006
		FM/AM Tuner Unit	

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 301	20kΩ (1/6W)	CCN1018
	R 303 304		RS1/10S242J
	R 305 306		RS1/10S562J
	R 307 308	3.3kΩ (1/6W)	CCN1016
	R 309 310		RS1/10S683J
	R 311 312	1kΩ (1/6W)	CCN1015
	R 313 314		RS1/10S101J
	R 315		RS1/10S123J
	R 501 524 533 534 537 721 757 758 759 760		RS1/10S222J
	R 502 713		RD1/4PS104JL
	R 503 634		RS1/10S393J
	R 504 511 576 613 614 627 628		RS1/10S473J
	R 509 510 512 521 522		RS1/10S472J
	R 513 514 515 517 529 530 532 535 543		RS1/10S102J
	R 518 742 743 763 764 765 780 781		RS1/10S681J
	R 519 527		RS1/10S152J
	R 520 536 571 633		RS1/10S104J
	R 523 577 623 624 640		RS1/10S223J
	R 526 572 573 635 636 637 711		RS1/10S103J
	R 528 538 702		RD1/4PS472JL
	R 531 555 556 565 566 575		RS1/10S471J
	R 539		RS1/10S221J
	R 540 735 864 865		RS1/10S474J
	R 541		RS1/10S153J
	R 542		RS1/10S183J
	R 551 552 561 562 860 862		RS1/10S392J
	R 553 554 563 564 733 861 863		RS1/10S182J
	R 557 558 559 560 567 568 569 570		RD1/4PS4R7JL
	R 574 607 608 609 610 611 612		RS1/10S102J
	R 601 602		RS1/10S822J
	R 603 604 761 762		RS1/10S222J
	R 605 606 615 616 625 626		RS1/10S203J
	R 621 622		RS1/10S113J
	R 631 712 732 736 751 752 753		RS1/10S102J
	R 632 641 706 714 725 729		RS1/10S472J
	R 638		RD1/4PS682JL
	R 639		RD1/4PS471JL
	R 642 754 756 881		RS1/10S102J
	R 643 (KEH-M7000SDK)		RS1/10S473J
	R 644 (KEH-M7000SDK)		RS1/10S223J
	R 701		RD1/4PS270JL
	R 703		RD1/4PS220JL
	R 704		RD1/4PS152JL
	R 705 724		RD1/4PS272JL
	R 707 709 710 715 727 737 740 741 744 749		RS1/10S473J
	R 708 726		RD1/4PS473JL
	R 722		RS1/10S223J
	R 723 745 746 747 748 750		RD1/4PS102JL
	R 728		RS1/10S124J
	R 730		RS1/10S272J
	R 755 (KEH-M7000SDK)		RS1/10S102J
	R 766 767		RS1/10S682J
	R 768 769 770 771 782 783 784		RS1/10S473J
	R 785 786		RD1/4PS130JL
	R 801 (KEH-M7000SDK)		RD1/4PS102JL
	R 802 (KEH-M7000SDK)		RS1/10S103J
	R 803 (KEH-M7000SDK)		RS1/10S472J
	R 804 (KEH-M7000SDK)		RS1/10S473J
	R 805 (KEH-M7000SDK)		RS1/10S222J
	R 807 (KEH-M7000SDK)		RS1/10S471J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 301 302 309 310 866 868		CEA010M50LS2
	C 303 304		CEAR33M50LS2
	C 305 306 317 318		CQPA103G2A
	C 307 308 315 316		CKSQYB183J50
	C 311 312 321 322		CEAR68M50LS2
	C 313 314 323 324 712		CEA2R2M50LS2
	C 319 320		CKSQYB823J25
	C 325		CEA471M10L2
	C 326 514 519 704 705 707		CEA220M16LS
	C 327 623 626 851 852 853 854		CEA101M10LS
	C 501 706 708 711 720		CKSQYF473Z25
	C 502 503 504 506 507 508 509 510 511 512		CKSQYB103K50
	C 505		CKSQYB681K50
	C 513 601 602 605 606 613 614 624 628		CEA100M16LS2
	C 515		CEAR47M50LS2
	C 516		CKSQYB223K25
	C 517 520		CKSQYB103K50
	C 518 553 554 565 566		CKSQYB102K50
	C 521	4.7μF/16V	CCH1005
	C 522 523		CCSQCH270J50
	C 551 552 563 564		CEHAS4R7M35
	C 555 556 567 568 576		CEHAS470M16
	C 557 558 559 560 569 570 571 572		CQEA224J63
	C 561 573	220μF/16V	CCH1063
	C 562 574		CEHAQ471M16
	C 575		CKSQYB472K50
	C 577		CEHAS100M16
	C 580 581		CKSQYB103K50
	C 603 604 607 608		CEA4R7M35LS
	C 615 616 617 618		CEA100M16LS2
	C 621		CEA101M10L2
	C 622 627		CEA470M16LS
	C 625		CEA221M10L2
	C 701 702		CEA220M16L2
	C 703	3300μF/16V	CCH1037
	C 709		CEA010M50L2
	C 710	220μF/10V	CCH1015
	C 713		CCSQCH090D50
	C 714		CCSQCH330J50
	C 801 (KEH-M7000SDK) 802 (KEH-M7000SDK)		CEA220M16LS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 803 (KEH-M7000SDK)		CKSQYB103K50
	C 804 (KEH-M7000SDK)		CEAR33M50LS2
	C 805 (KEH-M7000SDK)		CEA470M16LS
	C 806 (KEH-M7000SDK)		CEA4R7M35LS
	C 807 (KEH-M7000SDK)		CQEA683J50
	C 865 867		CEA100M16LS2

Unit Number :
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 51		LA1140B
**	IC 101		KHA146
**	IC 201		PA4010
**	Q 1 203 205	Chip Transistor	DTC124EK
**	Q 51 202	Chip Transistor	2SC2712
**	Q 71	Chip Transistor	2SJ106
**	Q 201		2SK435
*	D 201 202 203 204		1SS133
*	D 205	Variable Capacitance Diode	SVC203-AB
	L 51	Inductor	LAU150K
	L 201	Inductor	CTF1084
	L 203	Ferri-Inductor	LAU220K
	L 204	Ferri-Inductor	LAU470K
	L 205	Ferri-Inductor	LAU4R7K
	L 206	Ferri-Inductor	CTF-157
	T 51	Coil	CTC1029
	T 201	Coil	CTB1020
	T 202	Coil	CTB1004
	T 203	Coil	CTB1040
	T 204	Coil	CTE1025
	T 205	Coil	CTE1026
	T 206	Coil	CTE1027
	CG 1	Surge Protector	DSP-201M-S00B
	CF 51	Ceramic Filter	CTF-182
	CF 201	Ceramic Filter	CTF1041 (CTF1027)
	CF 202	Filter	CTF1085 (CTF-100)
	X 201	Crystal Resonator	CSS1014
**	VR 53	Semi-fixed 150kΩ (B)	VRTB4VS154
**	VR 152	Semi-fixed 6.8kΩ (B)	VRTB4VS682
**	VR 153	Semi-fixed 4.7kΩ (B)	VRTB4VS472
		FM Front End	CWB1037

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 5 58 210		RS1/10S682J
	R 6 131		RS1/10S102J
	R 7 152		RS1/10S223J
	R 8 10		RS1/10S152J
	R 9		RD1/4PS151JL
	R 52		RS1/10S331J
	R 53 57 204 213		RS1/10S473J
	R 54 103		RS1/10S333J
	R 55 60 215		RS1/10S153J
	R 56		RS1/10S123J
	R 59		RS1/10S183J
	R 61 62 101		RS1/10S472J
	R 75		RS1/10S474J
	R 102		RS1/10S392J
	R 156 157		RS1/10S332J
	R 201		RS1/10S220J
	R 202		RS1/10S681J
	R 203 206 214		RS1/10S222J
	R 205 209		RD1/4PS470JL
	R 207		RS1/10S822J
	R 208 211 212		RS1/10S103J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 1 201 209 223 228		CKSQYB103K25
	C 2 3		CKSQYB102K50
	C 51 52 53 54 59 132 203 215 216 219		CKSQYF473Z50
	C 55 62		CCSQSL330J50
	C 56 63		CEAR47M50LS2
	C 57		CKSYB683K25
	C 58		CEA010M50LS2
	C 60		CCSQSL101J50
	C 61		CEA4R7M16NPLL
	C 70		CCSQCH200J50
	C 103		CEA150M16LS
	C 105 224		CEA470M16LS
	C 154		CKSQYB153K25
	C 159 160		CKSQYB183K25
	C 161		CEA101M10LS
	C 202 212		CKSQYB332K50
	C 204 208 210		CKSQYB223K25
	C 205		CCSQCH220J50
	C 206 207		CCSQCH820J50
	C 211		CEA2R2M50LS2
	C 213		CCSQCH470J50
	C 218		CEA2R2M35NPLL
	C 220		CCSQCH430J50
	C 221		CCSQCH100D50
	C 222		CSZA010K35L
	C 225		CKSQYB333K25
	C 226		CKSQYF473Z50
	C 227		CEA4R7M35LS
	C 229		CEA470M16LS
	C 230		CEA220M16LS

Unit Number :
Unit Name : Mechanism Control Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 1		BA3430FS
**	Q 1	Chip Transistor	2SC4116
**	Q 2	Chip Transistor	DTC143ZU
**	Q 3	Chip Transistor	DTBL13ZP
**	Q 4 6	Chip Transistor	2SC3295
**	Q 5 7	Chip Transistor	2SB1441JU

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 1 2 3 4		RS1/10S153J
	R 5 6 13		RS1/10S181J
	R 7 8		RS1/10S334J
	R 9 10		RS1/10S133J
	R 11 12		RS1/10S183J
	R 14		RS1/10S270J
	R 15		RS1/10S823J
	R 16 21 26		RS1/10S473J
	R 17		RS1/10S333J
	R 18 19		RS1/10S224J
	R 20 24 25 29		RS1/10S103J
	R 22 23 27 28		RS1/8S221J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 1 2 3 4		CKSQYB391K50
	C 5 6	22μF/6.3V	CCH1065
	C 7 8 14		CKSQYB103K50
	C 9		CKSQYB152K50
	C 10 12		CKSYB104K25
	C 11	6.8μF/25V	CCH1066
	C 13	100μF/6.3V	CCH1067
	C 15 16	4.7μF/25V	CCH1064

Unit Number :
Unit Name : Display Unit

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 901		LC7582P
**	IC 902		BX-1393
**	S 1 2 3 4 5 6 7 8 9 10	Switch	CSG-255
**	S 11 12 13 14 15 16 17 18 19 20	Switch	CSG-255
**	S 21 22 23	Switch	CSG-255
**	IL 1 2 3	Lamp 14V 40mA	CEL1004
**	IL 4 5 6 7	Lamp 14V 40mA	CEL-147
**	IL 8 9	Lamp 8V 60mA	CEL1117
**	IL 10 11	Lamp 8V 60mA	CEL1116
**	IL 12 13	Lamp 8V 60mA	CEL1115
		LCD	CAW1061
	R 901 902 903 904		RS1/10S102J
	R 905		RS1/10S104J
	R 906		RS1/10S470J
	C 901		CKSQYB223K25
	C 902		CCSQCH331J50
	C 903		CEA470M6R3LS

Unit Number :
Unit Name : Connector P.C.Board

Mark	Circuit Symbol & No.	Part Name	Part No.
*	D 1 2		F1SR35-100A
**	S 1 2 3	Switch(LOAD, END, F/R)	CSN1005

Unit Number :
Unit Name : Switch P.C.Board

Mark	Circuit Symbol & No.	Part Name	Part No.
**	S 1 2	Switch(METAL, PLAY)	CSN1005

Miscellaneous Parts List

Mark	Circuit Symbol & No.	Part Name	Part No.
**	S 602	Switch(Q/R)	CSN-078
**	HD 1	Head Unit	EXA1087
**	M 1	Motor Unit	EXA1089
*	SO 1	Solenoid	EXP1003
*	SO 2	Solenoid	EXP1004

16. PACKING METHOD

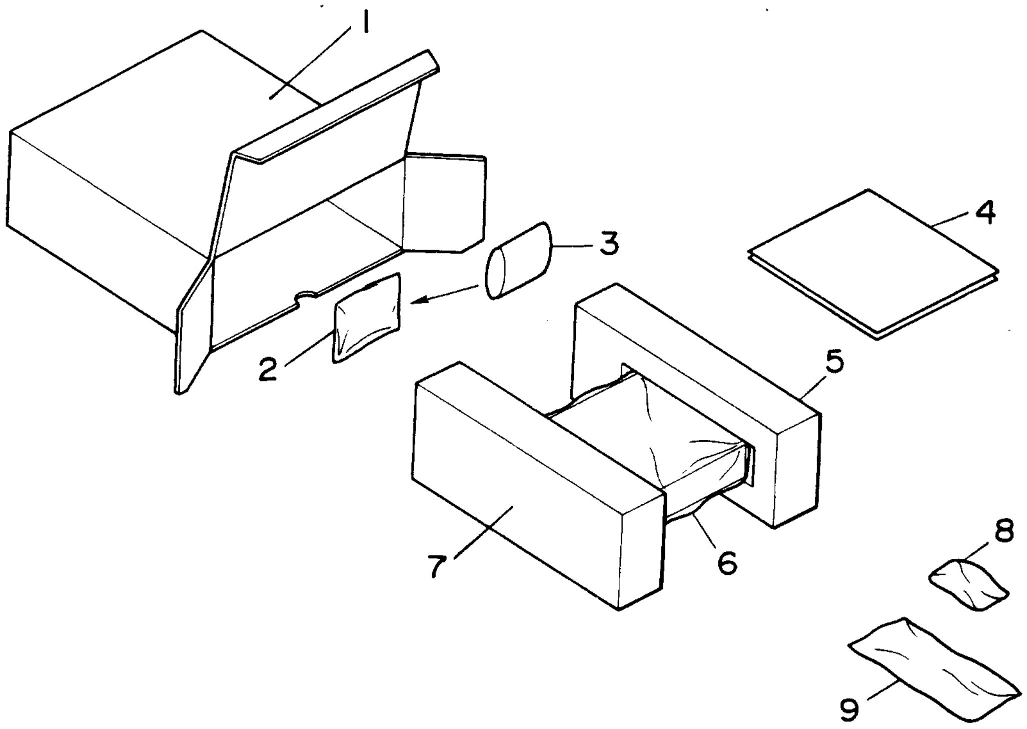

Fig. 19

- **Parts List**

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Carton(WG)	CHG1597		6	Cover	CEG-114
		Carton(EW)	CHG1596		7	Styrofoam(L)	CHP1216
	2	Remote Control Assy	CXA2860		8-1	Battery	CEX1006
	2-1	Cover	CZN3224		8-2	Fastener	CNM1716
	3	Air Cushioned Bag	CEG1055			(Rough Surface)	
	4-1	Owner's Manual(WG)	CRD1294		8-3	Fastener(Soft Surface)	CNM1717
		Owner's Manual(EW)	CRD1290		9	Accessory Assy	CEA1448
		(English, French, German, Spanish)			9-1	Cord(× 1)	CDE1289
		Owner's Manual(EW)	CRD1291		9-2	Bush(× 1)	CNV1009
		(Swedish, Norwegian, Dutch, Finnish)			9-3	Strap(× 1)	CNF-111
	4-2	Caution Card			9-4	Screw(× 1)	CBA-102
	4-3	Caution Card(WG)			9-5	Screw(× 1)	CBA1002
	4-4	Card			9-6	Nut(× 2)	NF50FMC
	4-5	Passport(WG)					
	5	Styrofoam(R)	CHP1217				

PIONEER
The future of sound and vision.

Service Manual

• KEH-M800/EW

ORDER NO.
CRT 1234

MULTI-CD CONTROL FM/MW/LW (FM/AM) TUNER DECK

KEX-M800 EW, ES, UC
KEX-M800SDK WG

SPECIFICATIONS

General

Power source	14.4 V DC (10.8-15.6 V allowable)
Grounding system	Negative type
Weight	1.7 kg (3.7 lbs.)
Tone controls (bass)	±10 dB (100 Hz)
(middle)	±10 dB (1 kHz)
(treble)	±10 dB (10 kHz)
Loudness contour	+12 dB (100 Hz), +7 dB (10 kHz) (volume: −30 dB)
Output impedance	1 kΩ

KEX-M800SDK/WG, KEX-M800/EW

Max. current consumption	1.0 A
Dimensions (chassis)	180(W) × 50(H) × 152(D) mm
(front face)	188(W) × 58(H) × 12(D) mm
Maximum output level	250 mV

KEX-M800/ES, KEX-M800/UC

Dimensions (chassis)	178(W) × 50(H) × 155(D) mm [7(W) × 2(H) × 6-1/8(D) in.]
(nose)	170(W) × 46(H) × 10(D) mm [6-3/4(W) × 1-3/4(H) × 3/8(D) in.]
Preout output level	500 mV

Tape player

Tape	Compact cassette tape (C-30−C-90)
Tape speed	4.76 cm/sec. (+0.14 cm/sec., −0.05 cm/sec.)
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.08% (WRMS)
Frequency response	Metal: 25−22,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	Metal: Dolby C NR IN: 73 dB (IHF-A network) Dolby B NR IN: 67 dB (IHF-A network) Dolby NR OUT: 61 dB (IHF-A network)

FM tuner

Frequency range (KEX-M800SDK/WG, KEX-M800/EW)	87.5−108 MHz
Frequency range (KEX-M800/ES, UC)	87.9−107.9 MHz (200 kHz)
(KEX-M800/ES)	87.5−108 MHz (50 kHz)
Usable sensitivity	11 dBf (1.0 µV/75Ω, mono)
50 dB quieting sensitivity	16 dBf (1.7 µV/75Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	25−15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

KEX-M800/UC

Selectivity	80 dB (2ACA)
Three-signal intermodulation (desire signal level)	45 dBf (two undesire signal level: 110 dBf)

MW (AW)-Tuner

Frequency range (KEX-M800/ES, UC)	530−1,710 kHz (10 kHz)
(KEX-M800SDK/WG, KEX-M800/EW, ES)	531−1,602 kHz (9 kHz)
Usable sensitivity	18 µV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±10 kHz) 50 dB (±9 kHz)

LW-Tuner (KEX-M800SDK/WG, KEX-M800/EW)

Frequency range	153−281 kHz
Usable sensitivity	30 µV (30 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

Note:
Specifications and the design are subject to possible modification without notice due to improvements.

- **Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.**

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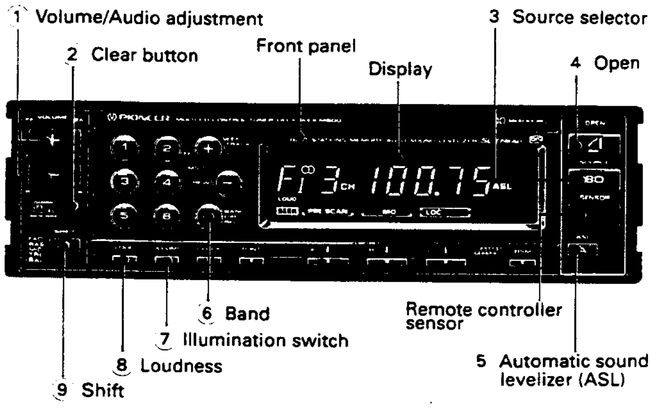
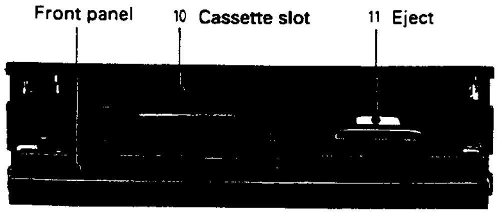
1. ADJUSTING VOLUME AND TONE



KEX-M800/EW



Using the Clear Button

Once all wiring is complete, press button ② with a thin, pointed object. Though not a normal occurrence, the microprocessor which controls the operation of this unit can be affected by electrostatic noise. This generally is indicated by such symptoms as no power being supplied when you switch the unit on, failure of buttons and controls, or an abnormal display. Should this happen, press button ② with a thin, pointed object to reset the microprocessor. Note that doing so also resets all audio controls, so you will have to make any desired settings again. This operation deletes all memory contents, such as frequencies stored in the preset memory, so you will have to make any desired settings again.

Switching Power On

Tuner

Press button ③ to switch the tuner power on. Press button ③ again to switch the power off.

Tape

Press button ④ to open the front panel, and load a cassette in through cassette slot ⑩. The cassette will play. To eject the cassette, press button ④ to open the front panel and press button ⑪.

Note:

- None of the operation buttons except button ⑪ work while the front panel is open. Use the control buttons after shutting the front panel.
- During operation, the power to this unit is turned off if the engine is started or if the ignition is turned off then to ACC or ON again while the front panel is open. In this case, close the front panel to resume operation.

Source Selector

When a cassette is loaded and button ③ is pressed, the source shifts in the order tape → tuner → power off. If this unit is combined with a multi-play CD player sold separately such as CDX-M70, or if a CD player is connected to the auxiliary input (AUX), the source shifts in the order multi-play CD player → tape → tuner → AUX (CD player).

- If a CD player is connected to the auxiliary input (AUX), the power to this unit will not switch off, even if button ③ is pressed, when the CD player is operating. To switch the power off, stop the CD player.
- When the source is switched to AUX (CD player), the display indicates CD.

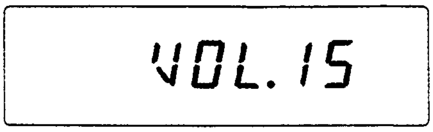
Adjusting Audio

Press button ① to adjust the volume. Each press of button ⑨ changes the display and the function of button ① as follows:

Volume → Fader → Bass → Middle → Treble → Balance

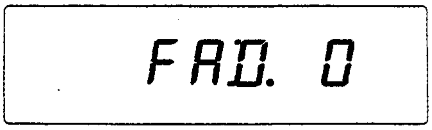
Adjusting Volume

Pressing the (+) side of button ① increases the volume, while the (–) side decreases it.



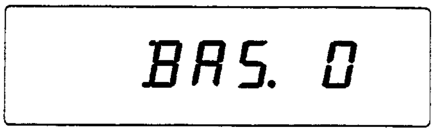
Adjusting the Fader

This function controls the balance between the front and rear speakers of a 4-speaker system. Pressing the (+) side of button ① shifts the balance to the front speakers, while the (–) side shifts it to the rear speakers.
For 2-speaker systems, set FAD. 0.



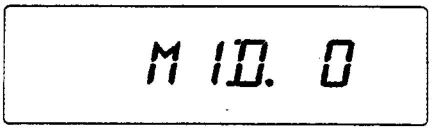
Adjusting Bass

Pressing the (+) side of button ① increases bass, while the (–) side decreases bass.



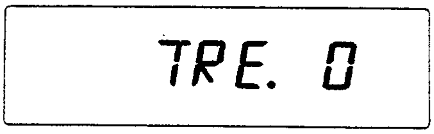
Adjusting Middle

Pressing the (+) side of button ① increases middle, while the (–) side decreases middle.



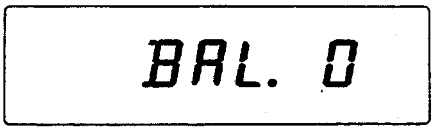
Adjusting Treble

Pressing the (+) side of button ① increases treble, while the (–) side decreases treble.



Adjusting Balance

Pressing the (+) side of button ① shifts the balance to the left speaker, while the (–) side shifts it to the right speaker.



- When you're adjusting fader, bass, middle, treble, or balance settings, the indicator will stop at the center setting. About 5 seconds after adjustment has been made, the display returns to its previous state.

ASL (Automatic Sound Levelizer)

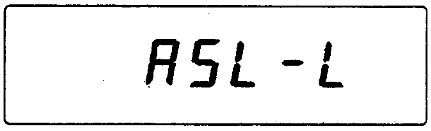
Press button ⑤ to operate ASL (automatic sound levelizer). ASL monitors the noise inside the vehicle, which changes according to the driving speed and the road conditions, and automatically increases the volume when the noise increases. (ASL is shown on the display.)

- At high volume, ASL automatically reduces the selected intensity if it will make the volume too loud.
- If ASL operates and the volume becomes too high, the sound may be distorted. In this case, reduce the volume.

ASL Intensity Selection

ASL has three different intensity modes (increases in volume according to noise). The greatest increase is obtained with ASL-H, followed by ASL-M, then ASL-L.

1. Hold down button ⑤ for at least 2 seconds. The current ASL mode will be shown on the display for about 5 seconds.



(Example: ASL-L)

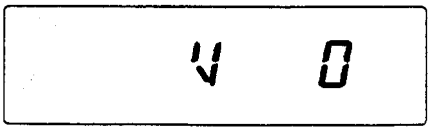
2. While the display indicates an ASL mode, press either the (+) or (–) side of button ① to change the ASL mode.

- About 5 seconds after the ASL mode has been changed, the display returns to the previous indication.

Using Source Level Adjuster

You may wish to adjust volume when you have changed the source to radio, tape, or CD or when you have changed the radio band from FM to MW/LW. You can do so on the basis of the volume of FM as follows:

1. Use the button ③ to change the source. (In case of radio, change the band to MW/LW.)
2. Hold down the button ⑨ for about 2 seconds, and the display will show you the volume of the source.



3. To increase the volume, press the (+) side of the button ①, and to decrease press the (–) side. You can adjust the volume within a span of V -4 and V 4. The display automatically returns to the previous showing when five seconds have elapsed after the adjustment.

- No adjustment can be made when an FM station is tuned in.

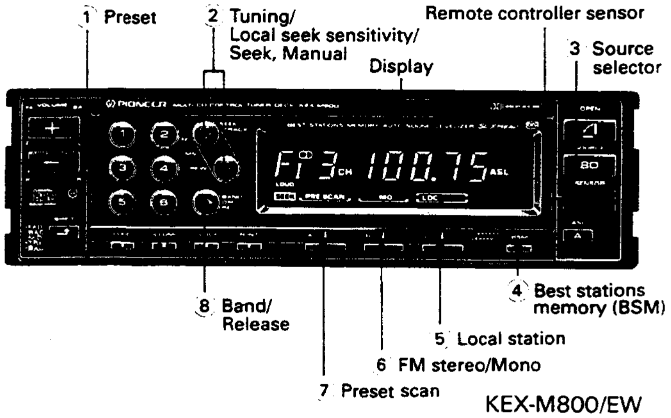
Using the Loudness Function

Press button ⑧ and the LOUD indicator will appear on the display. This "loudness" function enhances both the high and low ranges of sound to give even more power to output even at low volumes.

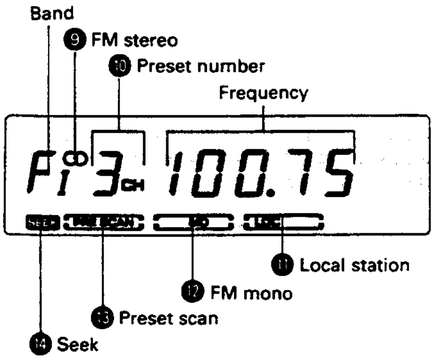
Switching Illumination Colour

Press button ⑦ to switch illumination colour between green and amber. Pressing clear button ② causes the illumination to be turned amber.

2. USING THE TUNER



KEX-M800/EW



1 Press button ③ to switch the tuner power on.

2 Press button ⑧ to select a band.

FI → FII → FIII → M/L
(FM1) (FM2) (FM3) (MW/LW)

Use button ② to switch between MW (531–1,602 kHz) and LW (153–281 kHz).

3 Use seek tuning to tune in a frequency.

Confirm that the SEEK indicator ● is shown on the display (if not, press the (+) and (–) sides of button ② at the same time).

Press the (+) side of button ② to automatically tune in the next higher receivable frequency, and the (–) side for a lower frequency.

4 Adjust volume and tone (see page 2).

5 Assign the tuned frequency to one of the buttons in bank ① (preset memory).

Press and hold down one of the buttons in bank ① for at least two seconds. The frequency is assigned to the selected button when the preset number ● stops flashing on the display. Up to 18 FM stations (6 each for FM1, FM2 and FM3) and six MW/LW stations can be assigned to the preset memory buttons in bank ①.

6 Once a frequency is assigned to a button in bank ①, you just need to press that button to tune it in.

This also causes the number of the button pressed to appear at position ● on the display.

Preset Scan Tuning

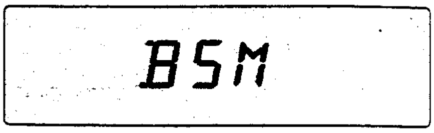
This function lets you automatically monitor the stations assigned to the preset buttons.

1. Press button ⑦. (Bar ● appears.) Preset number ● flashes and each station in the memory for button ① is sequentially called for 8 seconds.
2. When you hear a station that you like, press button ⑦ again to cancel preset scan tuning and remain at that station.

BSM (Best Stations Memory)

This function automatically locates stronger stations and automatically assigns their frequencies to the buttons in bank ①, from strongest to weakest. It comes in handy when trying to find local stations while driving.

1. Press button ⑧ and select a band.
2. Hold down button ④. After about two seconds, a "beep" will sound to signal that the BSM search has started. At this time, BSM will flash on the display.



3. The frequency display will return once BSM search is complete, and frequencies are assigned to buttons 1 through 6 in bank ①.

- At the end of the BSM search, the displayed frequency is that assigned to button ❶ of bank ①.
- If there are fewer than six strong stations in the area, some of the buttons in bank ① will not be assigned frequencies, so they will retain any frequencies assigned to them previously.
- BSM search may take as long as 30 seconds in areas where there are few strong stations.
- You can cancel BSM search by pressing button ⑧.

Manual Tuning

Use manual tuning when stations are too weak to be picked up by seek tuning.

1. Press both (+) and (–) sides of button ② at the same time to clear SEEK ●.
2. Each press of the (+) side of button ② increases the frequency in 50 kHz steps in the FM band, 9 kHz in the MW band and 1 kHz in the LW band. Pressing the (–) side of button ② decreases the frequency. Holding down either side of button ② changes the frequency at high speed.

Switching between FM Stereo and Mono

Generally, it is best to allow the ARC (Automatic Reception Control) function to automatically set the optimum listening conditions. When there is a large amount of noise, you can press button ⑥ for clearer, mono reception (bar ● appears).

Adjusting Seek Sensitivity

The seek tuning function of this tuner lets you select between a local setting for reception of strong stations only, and a DX (distant) setting for reception of weaker stations. The local setting also has four seek tuning sensitivity levels for FM and two levels for MW/LW to match local conditions.

Changing the Local Seek Sensitivity

1. Use button ⑧ to select a band.
2. Hold down the button ⑤ for more than two seconds, and the display will show you the current local seek sensitivity for about five seconds.

(Example: LOC-2)

3. While the local seek sensitivity remains on the display, press the (+) side of button ② to increase the sensitivity level, and the (–) side to decrease the level as shown below.

   FM : LOC-1⇄LOC-2⇄LOC-3⇄LOC-4
   MW/LW : LOC-1⇄LOC-2

   The LOC-4 setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.

- The display of local seek sensitivity returns to the frequency when about five seconds have elapsed after the change of sensitivity.

Switching between Local and DX

Press button ⑤ to switch between Local and DX (distant) seek tuning.

When bar ● is shown on the display, seek tuning is performed with the local seek sensitivity. Otherwise, seek tuning is performed with the DX seek sensitivity.

Note on LW Band Seek Tuning

The following shows changes in LW BAND broadcast frequency steps enacted by WARC/1979. The underlined italic figures indicate changes.

A. Up to January 1986
155-164-173-182-191-200-209-218-227-236-245-254-263-272-281

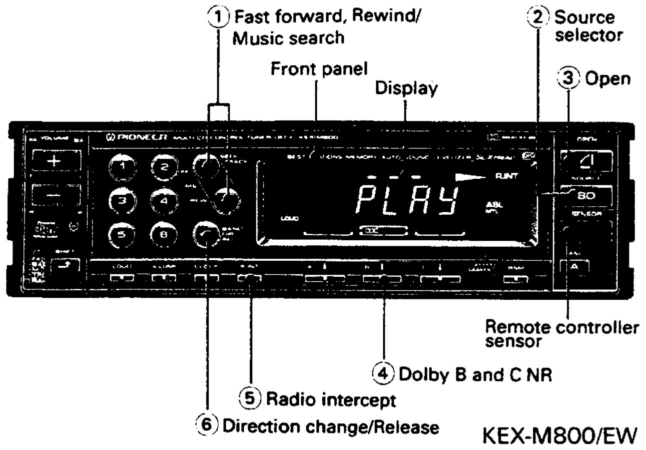
B. From February 1986
153-162-171-180-189-200-209-218-227-236-245-254-263-272-281

C. From February 1988
153-162-171-180-189-*198-207-216-225-234*-245-254-263-272-281

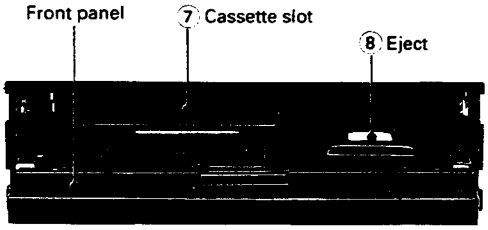
D. From February 1990
153-162-171-180-189-198-207-216-225-234-*243-252-261-270-279*

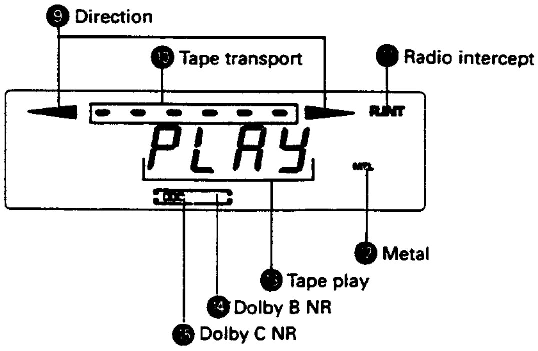
The LW band seek operations of this unit are performed in 9 kHz steps starting from 153 kHz. In the case of C, the first ten frequencies are identical to each station being broadcast, while the remaining five are shifted (2 kHz each). Consequently, manual tuning (in 1 kHz steps) and seek tuning should be used together to tune in the desired LW broadcast. It is also suggested that your favorite LW stations will be memorized for instant recall.

3. USING THE TAPE DECK



KEX-M800/EW





[1] Press button ③ to open the front panel.

[2] Load a cassette in through the cassette slot ⑦. The cassette will play.

Tape play ⓭, tape transport ❿, and direction ❾ appear.

[3] Close the front panel and adjust volume and tone (see page 2).

[4] To stop play halfway, press button ② to switch the function off.

To restart play, press button ② some times until PLAY ⓭ appears on the display. The tape begins playing at the position where it stopped.

[5] To eject the cassette, press button ③ to open the front panel and press button ⑧.

Note:

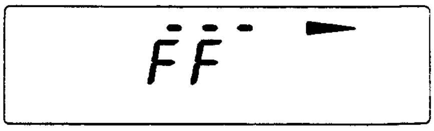
- The power is not switched on even if a cassette is loaded in through cassette slot ⑦, if the engine is started or if the ignition is turned off then to ACC or ON again while the front panel is open. In this case, close the front panel to switch the power on and start play.
- Power is automatically turned off when the cassette tape has not been set within a few seconds. When this happens, remove the tape by pressing the button ⑧ because of a possible trouble with the tape.
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.

Changing Program

Press the button ⑥ to change the side of tape from A to B or vice versa.

Using Fast Forward and Rewind

1. To fast-forward tape, press the (+) side of the button ①.



To rewind tape, press the (–) side.

2. To release the fast forward or rewind function, press the button ⑥.

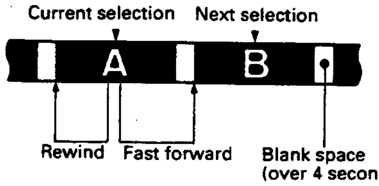
Using Radio Intercept

Use radio intercept to hear radio while fast forward or rewinding.

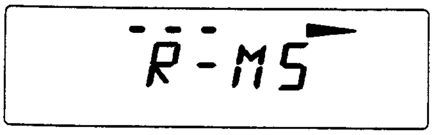
1. Press the button ⑤ (R.INT ● appears) before fast forward or rewinding, and you will hear radio.
2. To release the radio intercept function, press the button ⑤ again.

- The radio intercept does not function when the music search is in operation.

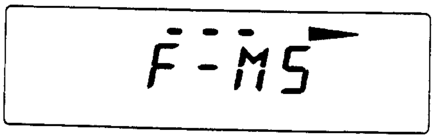
Using Music Search


Current selection
Next selection
A
B
Rewind
Fast forward
Blank space
(over 4 seconds)

1. To repeat the current selection (A), press the (–) side of the button ① two consecutive times.



To hear the following piece of music (B) rather than continue the current selection, press the (+) side of the button ① two consecutive times. Pressing the button ① three consecutive times makes the normal sequence of playing resume.



2. To release the music search function, press the button ⑥.

The following errors will cause the music search function to operate improperly, even though the unit is not malfunctioning.

- Unrecorded blank portion between selections is less than 4 seconds → the blank portion cannot be detected by the unit.
- Pauses in recorded conversations are longer than 4 seconds → the unit reads these as blanks between selections.
- Portions are recorded at very low volume for more than 4 seconds → the unit reads these as blanks between selections.

Dolby B and C NR

Press button ④ to listen to a cassette recorded using the Dolby NR system. Each press of button ④ shifts the Dolby NR mode as follows:

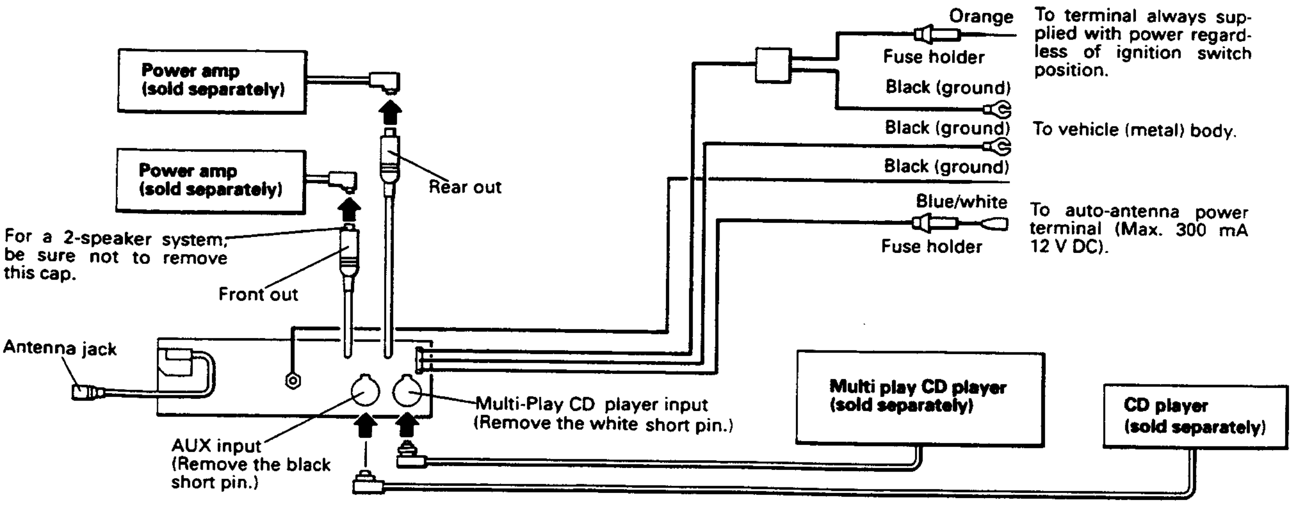
Dolby B NR (Bar ❸ appears) → Dolby C NR (C ⓯ appears) → Dolby NR off.

Auto Tape Selector

When a cassette tape is inserted, the automatic tape selector determines the tape type, and switches between 70 µs and 120 µs equalization. When it is a metal or chrome tape, MTL ⓬ comes on. When it is a normal tape, nothing comes on.

4. CONNECTING THE UNITS

- Before making final connections, make temporary connections then operate the unit to check for any connecting cord problems.
- Refer to the owner's manual fcr details on connecting the various cords of the power amp and other units then make connections correctly.
- Be sure to connect the memory power supply lead (orange) to a terminal that is always supplied with power regardless of the vehicle's ignition switch position. If this connection is made incorrectly or is forgotten, the unit will not work at all.
- Don't pass that orange lead through a hole into the engine compartment to connect to the battery. This will damage the lead insulation and cause a very dangerous short.
- When the multi-play CD player input or the AUX input is not in use, leave the short pin on it.
- For 2-speaker systems, wire the rear output cord to the main amp.


Orange
To terminal always supplied with power regardless of ignition switch position.
Fuse holder
Black (ground)
Black (ground)
To vehicle (metal) body.
Black (ground)
Blue/white
To auto-antenna power terminal (Max. 300 mA 12 V DC).
Fuse holder
Power amp (sold separately)
Power amp (sold separately)
Rear out
For a 2-speaker system, be sure not to remove this cap.
Front out
Antenna jack
Multi-Play CD player input (Remove the white short pin.)
AUX input (Remove the black short pin.)
Multi play CD player (sold separately)
CD player (sold separately)

5. DISASSEMBLY

• Removing the Case

1. Insert and turn a flat screwdriver to remove the case.
2. Raise the case to remove.

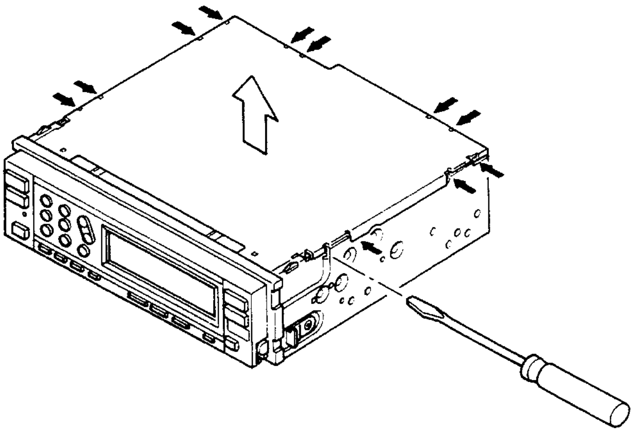


Fig. 1

• Removing the Cassette Mechanism Assy

1. Remove the four screws.
2. Disconnect the mechanism control unit connector.
3. Remove the cassette mechanism assy.

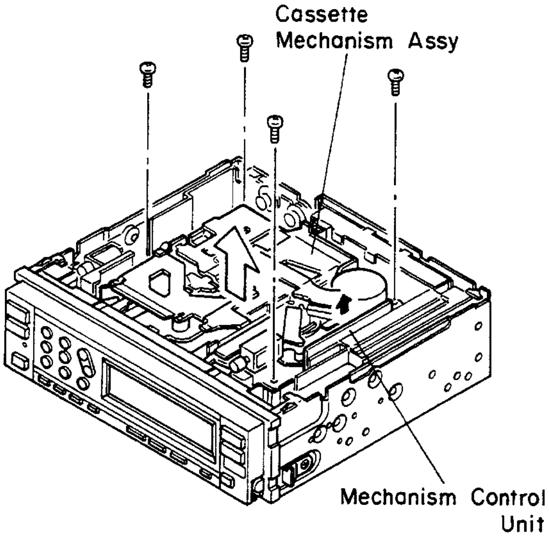

Cassette Mechanism Assy
Mechanism Control Unit

Fig. 2

• Removing the Grille Assy

1. Press the solenoid lever in the direction of the arrow to open the grille assy. (Fig. 3)

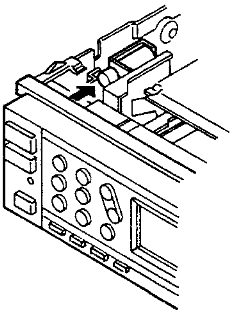


Fig. 3

2. While holding down the lock button, pull the grille assy toward you. (Fig. 4)

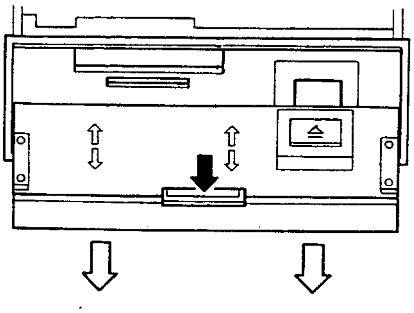


Fig. 4

• Removing the Holder Assy

1. Remove the two screws. (Fig. 5)
2. Disconnect the four connectors. (Fig. 6)
3. Press the tabs at three locations indicated by arrows, and then pull out the holder assy. (Fig. 6)

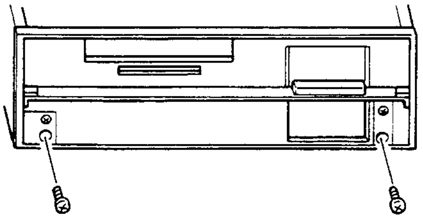


Fig. 5

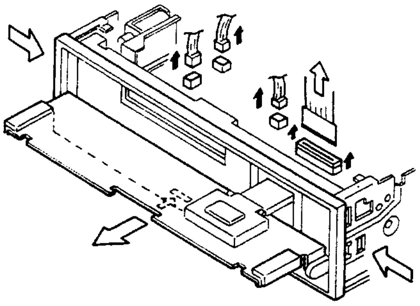


Fig. 6

• Removing the Display Unit

1. Remove the three screws, and then remove the cover unit.
2. Remove the three screws, and then remove the display unit.

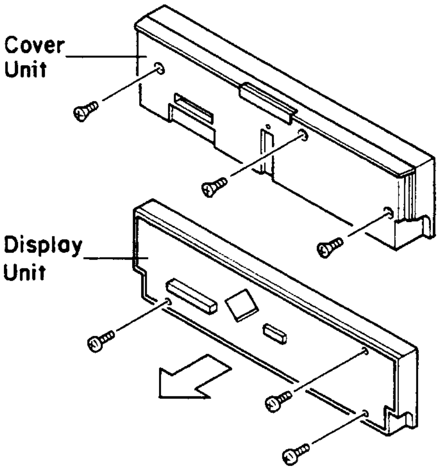


Fig. 7

• Removing the Audio Tuner Unit

1. Remove the three screws A, and then remove the holder.
2. Remove the two screws B.
3. Unbend the tab indicated by arrow until straight.
4. Raise up on audio tuner unit to remove it from chassis unit.

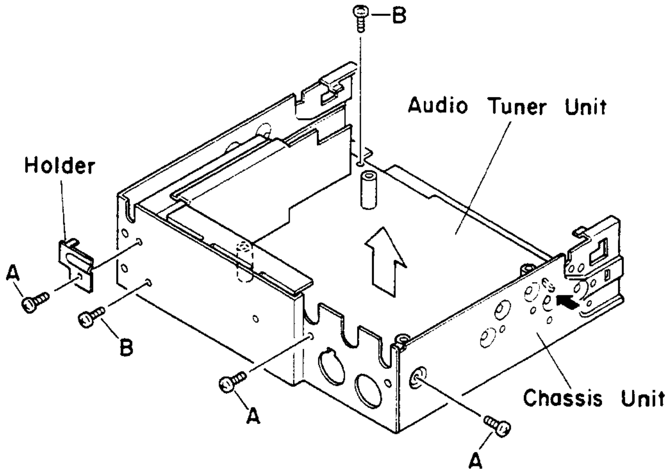

B
Audio Tuner Unit
Holder
A
B
A
Chassis Unit
A

Fig. 8

• Removing the Amp P.C. Board and FM/AM Tuner Unit

1. Remove the solders and unbend the tabs on back of each unit circuit board until straight.
2. Pull out unit as shown in illustration.

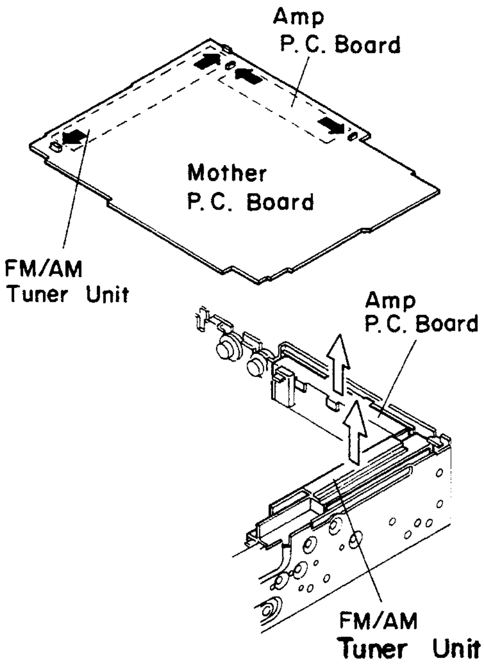

Amp
P. C. Board
Mother
P. C. Board
FM/AM
Tuner Unit
Amp
P. C. Board
FM/AM
Tuner Unit

Fig. 9

6. ADJUSTMENT

• Connection Diagram

NOTICE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.
Z: Output impedance of SSG.

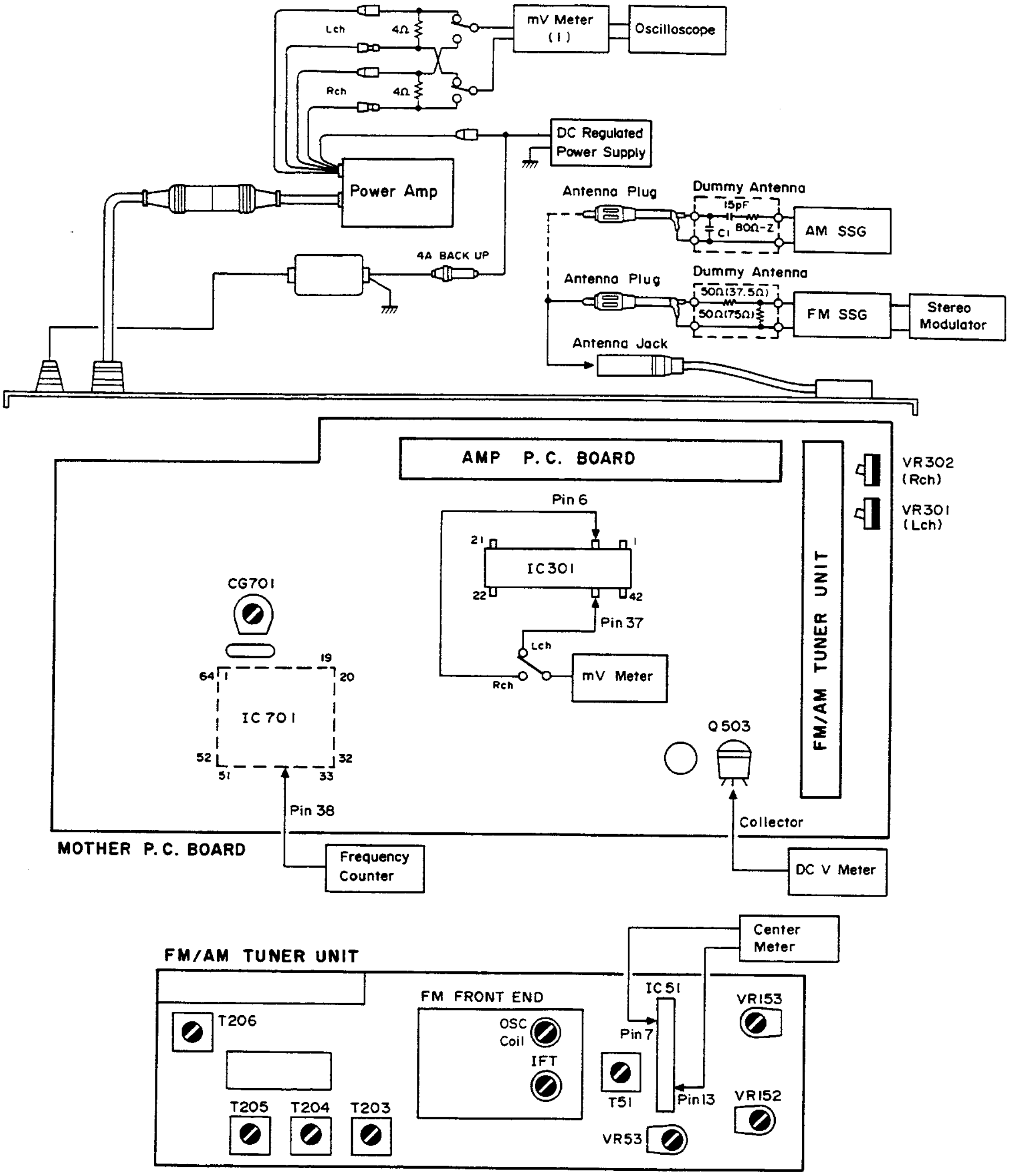

Lch
4Ω
Rch
4Ω
mV Meter (1)
Oscilloscope
DC Regulated Power Supply
Power Amp
4A BACK UP
Antenna Plug
Dummy Antenna
15pF
C1
80Ω-Z
AM SSG
Antenna Plug
Dummy Antenna
50Ω(37.5Ω)
50Ω(75Ω)
FM SSG
Stereo Modulator
Antenna Jack
AMP P.C. BOARD
VR302 (Rch)
VR301 (Lch)
Pin 6
21
1
IC301
22
42
Pin 37
Lch
Rch
mV Meter
CG701
19
64
20
IC701
52
32
51
33
Pin 38
FM/AM TUNER UNIT
Q503
Collector
MOTHER P.C. BOARD
Frequency Counter
DC V Meter
FM/AM TUNER UNIT
Center Meter
IC51
FM FRONT END
VR153
T206
OSC Coil
IFT
Pin 7
T51
Pin13
VR152
T205
T204
T203
VR53

Fig. 10

DOLBY NR LEVEL ADJUSTMENT

No.	Cassette Tape	Adjusting Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz, 200nwb/m)	VR301 (Lch), VR302 (Rch)	mV Meter: -8.2dBs±1dB (Dolby NR Switch: OFF, METAL Switch: OFF)

CLOCK ADJUSTMENT

No.	Adjusting Point	Adjustment Method (Switch Position)
1		Pin 45 of IC701 connect to pin 51 of IC701
2	CG701	Frequency Counter: 1,048,576Hz±1Hz

MW/LW ADJUSTMENT (KEX-M800SDK/WG, KEX-M800/EW)

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dBμV)			
Tuning Volt	1	(MW Mode)		1,602	T203	DC V Meter: Less than 7.0V
	2	(LW Mode)		153		Verify that DC V Meter is more than 2.0V
IF	1	999	20−25	999	T204, T205, T206	mV Meter (1): Maximum

AM ADJUSTMENT (KEX-M800/ES, UC)

*: ES model when tuning step at 9kHz.

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dBμV)			
Tuning Volt	1			1,710 *(1,602)	T203	DC V Meter: Less than 7.0V
	2			530 *(531)		Verify that DC V Meter is more than 2.0V
IF	1	1,000 *(999)	20−25	1,000 *(999)	T204, T205, T206	mV Meter (1): Maximum

FM ADJUSTMENT

※Stereo MOD.: 1kHz, L+R=90%, Pilot=10% *: ES model when tuning step at 50kHz.

	No.	FM SSG (400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dBμV)			
Tuning Volt	1			108.0 (WG, EW) 107.9 (ES, UC) *(108.0)	OSC Coil (FM Front End)	DC V Meter: 7.0V
IF	1	98.1 Unmodulated	60	98.1	T51	Center Meter: 0
	2	98.1	5	98.1	IFT (FM Front End)	mV Meter (1): Maximum
Mute	1	98.1	60	98.1		mV Meter (1): A dB (This output is A)
	2	98.1	10	98.1	VR53	mV Meter (1): A-3dB
ARC	1	98.1※	60	98.1	VR153	mV Meter (1): Separation Maximum (Stereo Position)
	2	98.1※	35	98.1	VR152	mV Meter (1): Separation 5dB (Stereo Position)

7. CASSETTE MECHANISM DISASSEMBLY

Note: Always use new washer and E washer at the time of reassembling.

• Dismounting the Cassette Holder

1. Remove the three springs.
2. Take off E washer, and then remove the arm unit.
3. Make the claw straight.
4. Shift the cassette holder toward the left and pull it out from above.

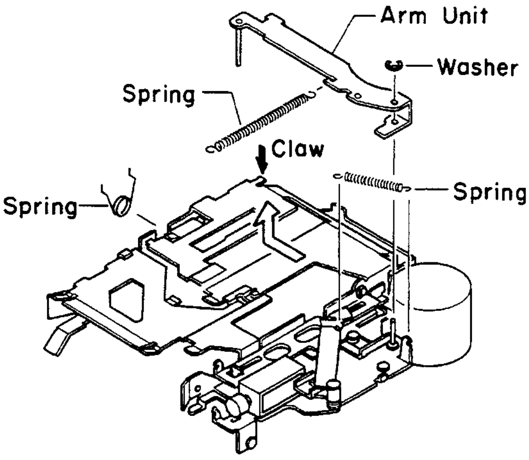

Arm Unit
Washer
Spring
Claw
Spring
Spring

Fig. 11

• Dismounting the Head Unit

1. Remove the two screws, and then remove the guide assy.
2. Remove the two screws, and then remove the head unit.

• Dismounting the Pinch Roller Unit

1. Remove the spring and then remove the pinch roller unit

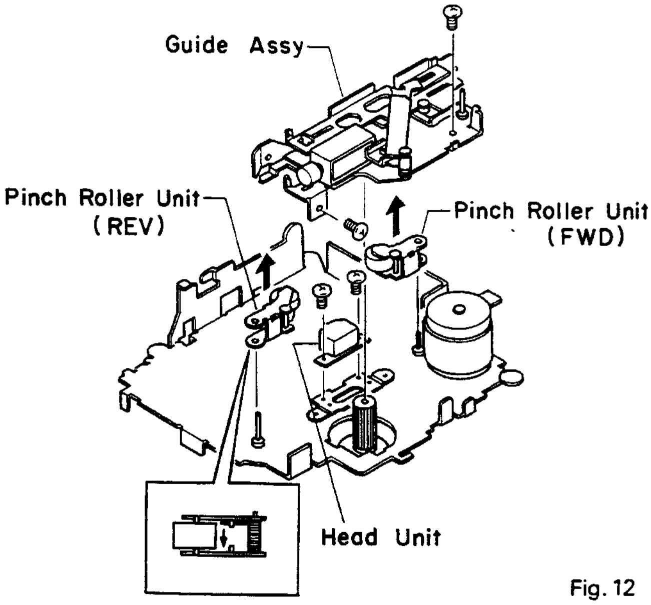

Guide Assy
Pinch Roller Unit (REV)
Pinch Roller Unit (FWD)
Head Unit

Fig. 12

• Dismounting the Gear (Reel Base)

1. Remove the two screws, and then remove the cover.
2. Remove the collar, and then remove the spring and gear.

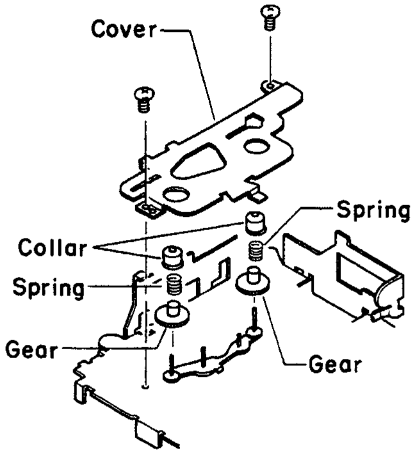

Cover
Collar
Spring
Spring
Gear
Gear

Fig. 13

8.2 DRIVING MECHANISM

- ATSC (EJECT) Mode

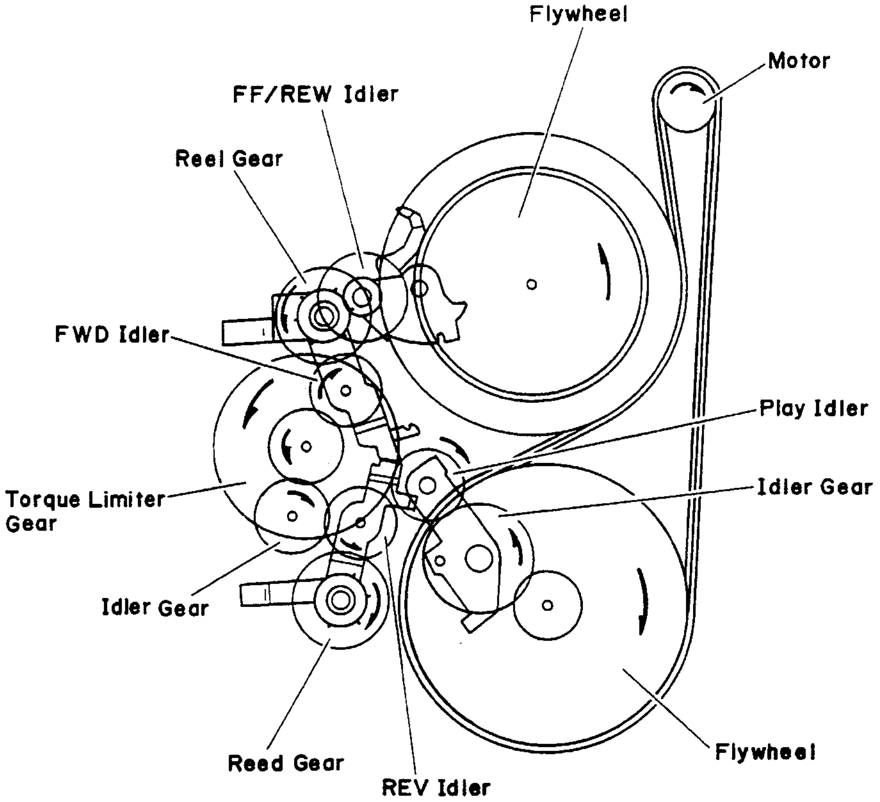

Flywheel
Motor
FF/REW Idler
Reel Gear
FWD Idler
Play Idler
Idler Gear
Torque Limiter Gear
Idler Gear
Reed Gear
REV Idler
Flywheel

Fig. 16

- FWD PLAY Mode

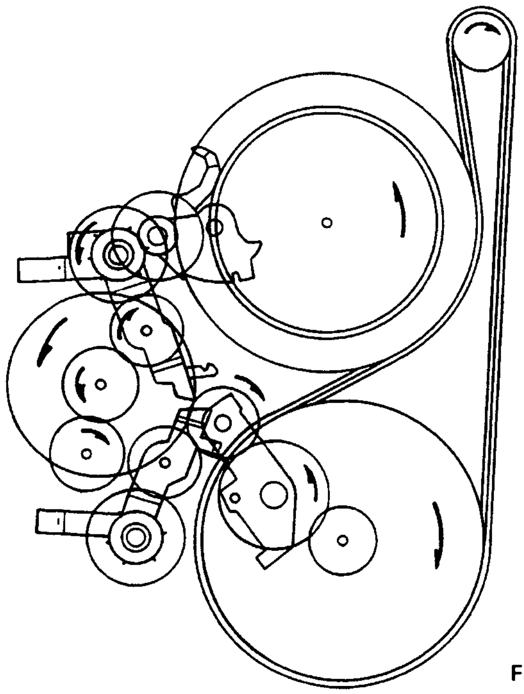


Fig. 17

- REV PLAY Mode

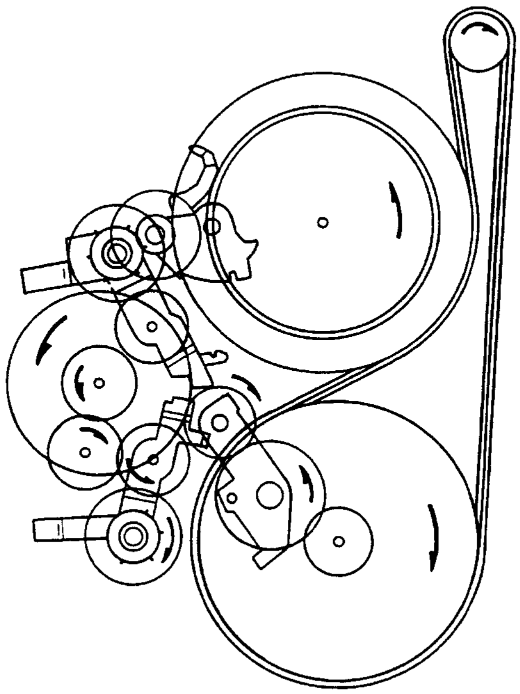


Fig. 18

• Dismounting the Flywheels

1. Remove the two screws, and then remove the cover.
2. Take off E washer. Retain washer properly to ensure it doesn't get lost.
3. Remove the flywheels. Do not mistake the N and R flywheels.

• Dismounting the Motor Unit

1. Remove the two screw, and then remove motor unit.

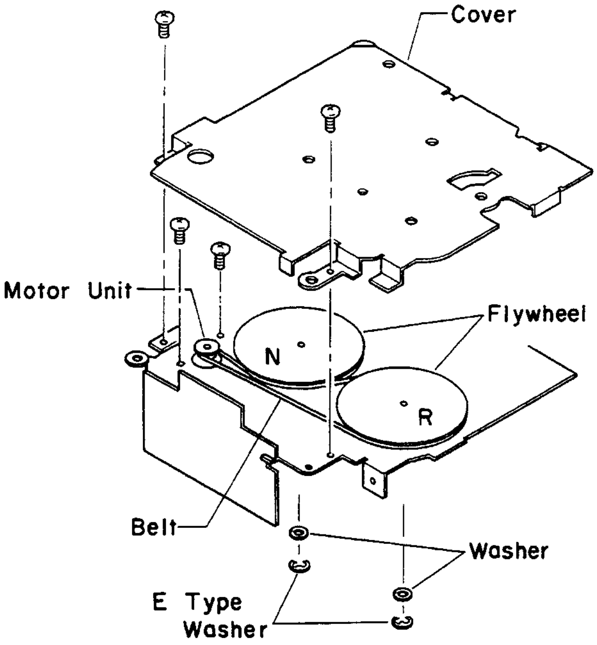

Cover
Motor Unit
Flywheel
N
R
Belt
Washer
E Type
Washer

Fig. 14

8. MECHANISM DESCRIPTION

8.1 PARTS LOCATION

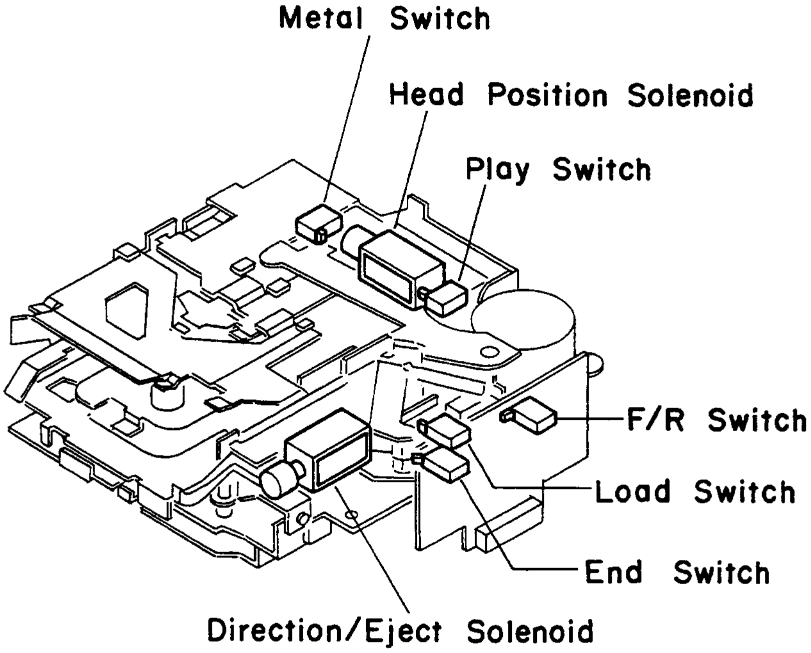

Metal Switch
Head Position Solenoid
Play Switch
F/R Switch
Load Switch
End Switch
Direction/Eject Solenoid

Fig. 15

- **FF Mode**

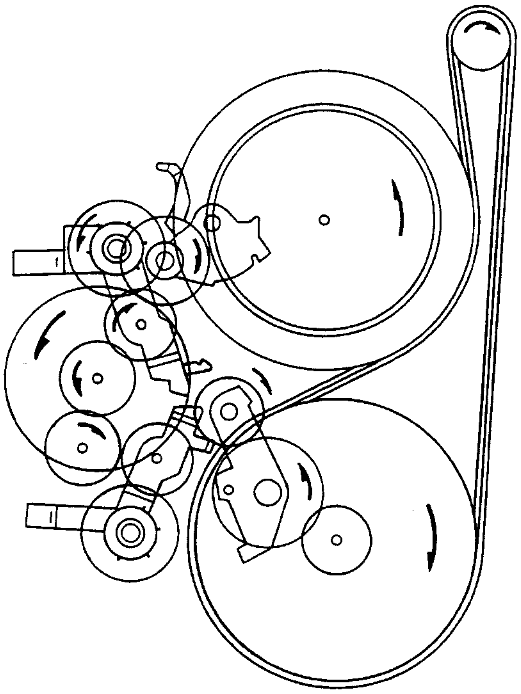


Fig. 19

- **REW Mode**

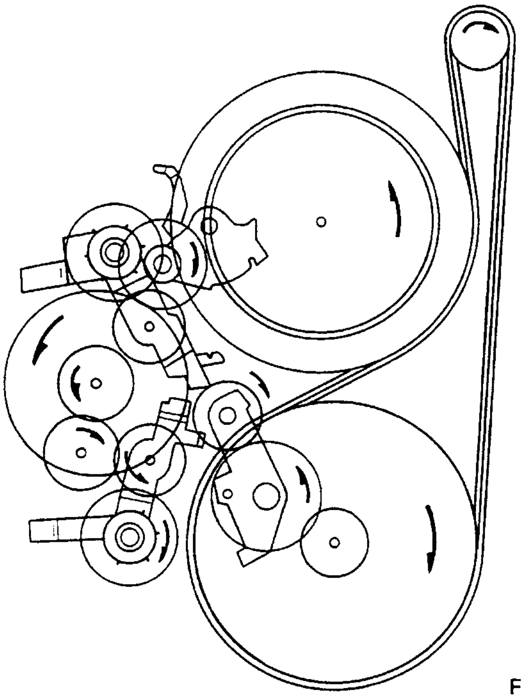


Fig. 20

9. CASSETTE MECHANISM ADJUSTMENT

9.1 AZIMUTH ADJUSTMENT

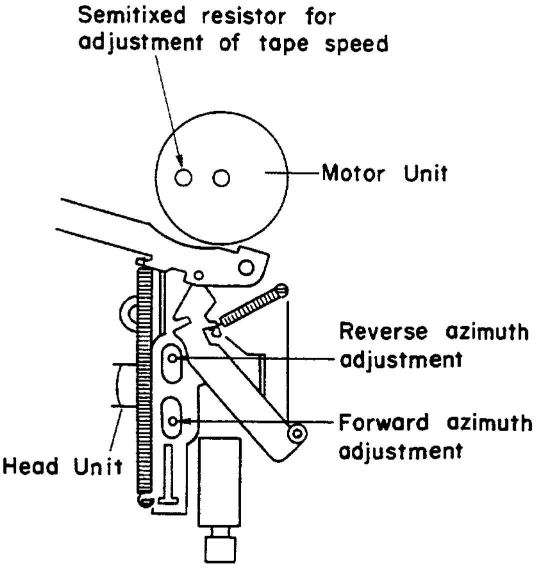
- **To Adjust**

1. Play "A" side of NCT-110 (10 kHz, −10 dB). Adjust each screw for maximum output in forward and reverse directions.
2. Play "B" side in forward and reverse directions to confirm adjustment.

9.2 TAPE SPEED ADJUSTMENT

- **To Adjust**

1. Reproduce NCT-111 (3 kHz, −10 dB). Adjust the semifixed resistor so that frequency counter shows 3,010 Hz (+80 Hz, −40 Hz).



Semitixed resistor for adjustment of tape speed
Motor Unit
Reverse azimuth adjustment
Forward azimuth adjustment
Head Unit

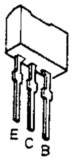
Fig. 21

9.3 CHECK POINTS OF CASSETTE MECHANISM

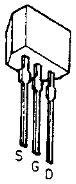
Confirm the following items when replacing parts of the cassette mechanism.	■ Tape speed deviation: 3,000 $^{+90}_{-30}$ Hz (4.76cm/s $^{+3}_{-1}$ %) Using an NCT-111, measure the speed at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimun and maximum values. Measuring time shall be 5 — 6 seconds.	■ Wow and flutter: Less than 0.18% (WRMS) Using an NCT-111, measure the wow and flutter at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimum and maximum values. Measuring time shall be 5 — 6 seconds.
■ Fast forward and rewinding time: 95—115 seconds Using a C-60, set to fast forward and rewind, and measure the time with a stop watch.	■ Winding torque: 37—63g•cm Using a cassette type torque meter (100 g•cm), measure the minimum value while in the play mode. Measuring time shall be 2.5 — 6 seconds.	■ F.F. torque: 70—110g•cm Using a cassette type torque meter (120 g•cm), measure the value when the tape stops in the F.F. mode.
■ REW torque: 70—110g•cm Using a cassette type torque meter (120 g•cm), measure the value when the tape stops in the REW mode.	■ Back tension torque: 0.5—5 kg After setting in the REW mode without loading a cassette tape for 5 minutes, measure the back tension torque in the play mode, using a cassette type torque meter.	■ Cassette loading force: Less than 0.5 kg Push the center of the cassette and measure the force with a tension meter (3 kg).

• ICs and Transistors

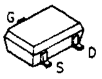
2SB1243
2SD1859



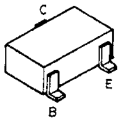
2SK330



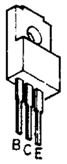
2SJ106



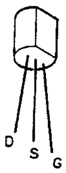
2SC2712
2SC3295
2SC4116



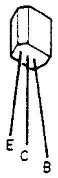
2SB945



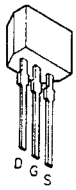
2SK435



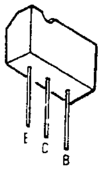
2SA1048
2SA1150
2SC2458



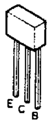
2SK184



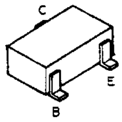
2SC1545F



UN4122
UN4211
UN4212

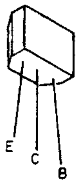


DTC124EK
DTC144EK
DTC343TK

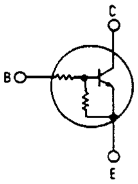


DTA124ES
DTC114ES
DTC124ES
DTC143ES

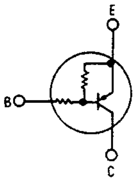
DTC143TS
DTC144TS
DTC314TS
DTC343TS



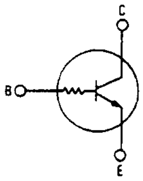
UN4211
UN4212
DTC114ES
DTC124ES
DTC143ES



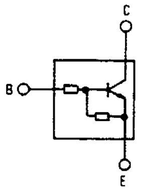
UN4122
DTA124ES



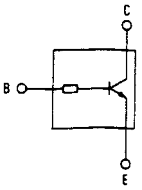
DTC143TS
DTC144TS
DTC314TS
DTC343TS



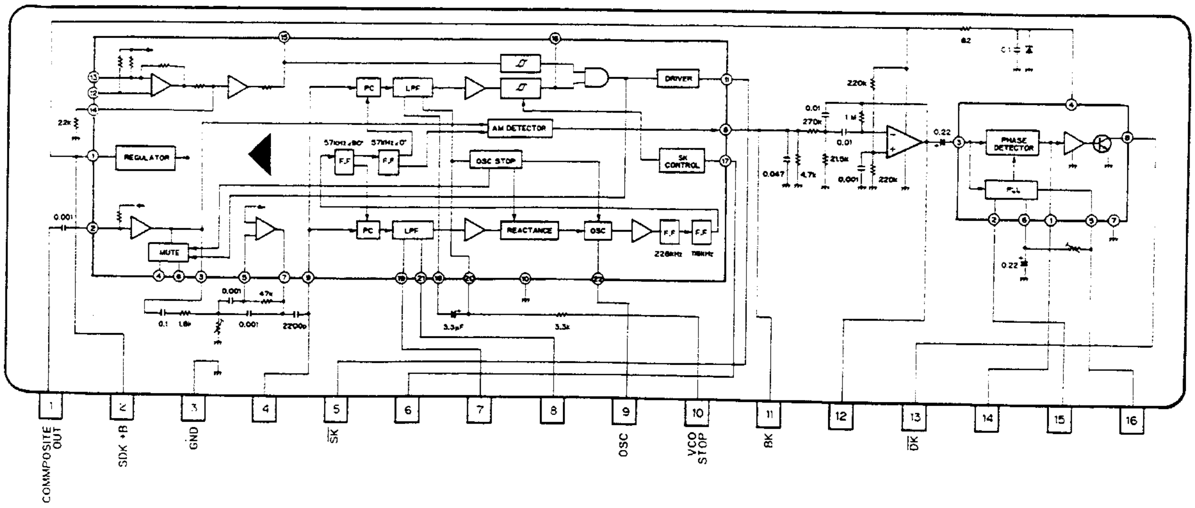
DTC124EK
DTC144EK



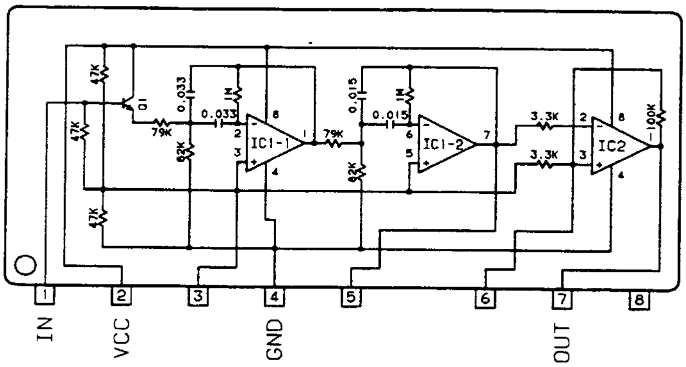
DTC343TK



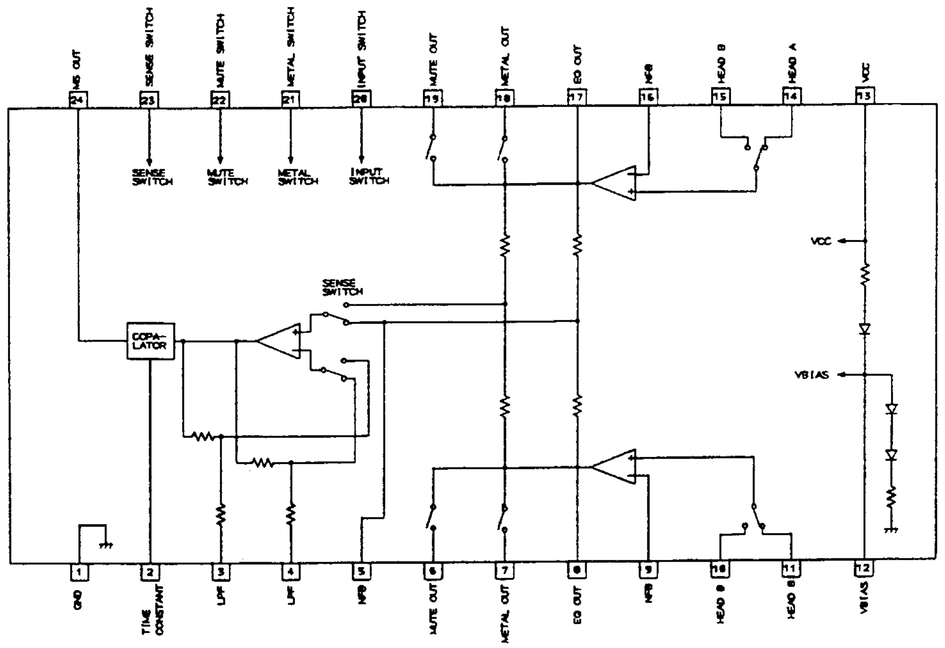
IC501 : KHA142


REGULATOR
MUTE
PC
LPF
AM DETECTOR
57kHz∠90°
57kHz∠0°
F.F
OSC STOP
DRIVER
SK CONTROL
REACTANCE
OSC
228kHz
114kHz
PHASE DETECTOR
PLL
22k
0.001
0.1
1.8k
0.001
47k
0.001
2200p
3.3μF
3.3k
0.01
270k
1M
0.01
220k
0.047
4.7k
21.5k
0.001
220k
0.22
82
0.1
0.22
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
COMMPOSITE OUT
SDK +B
GND
$\overline{SK}$
OSC
VCO STOP
8K
$\overline{DK}$

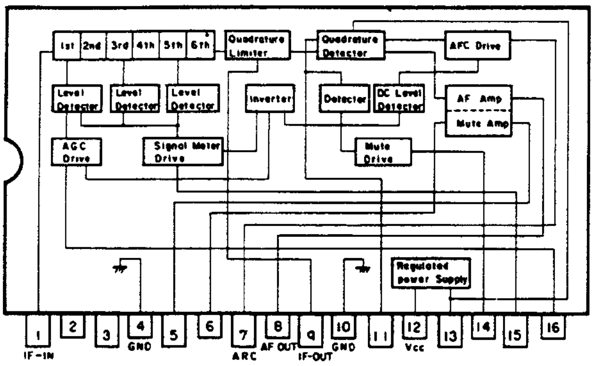
IC502 : CWW1091


47K
47K
47K
Q1
0.033
0.033
79K
82K
1M
IC1-1
8
2
3
4
1
0.015
0.015
79K
82K
1M
IC1-2
6
5
7
3.3K
3.3K
IC2
100K
2
3
8
4
1
2
3
4
5
6
7
8
IN
VCC
GND
OUT

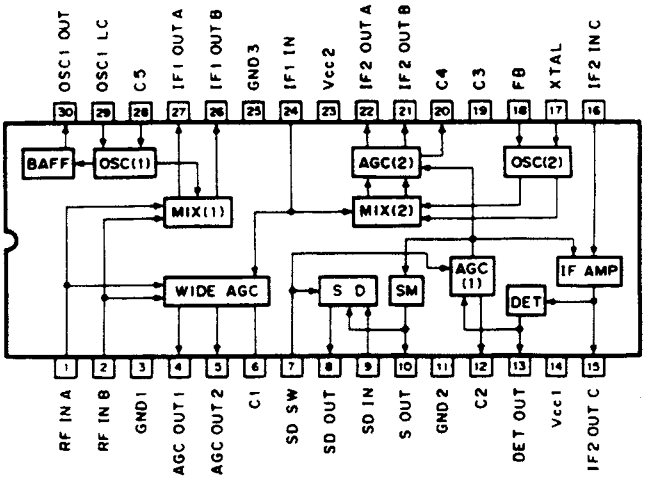
IC1 : BA3430FS


MS OUT
SENSE SWITCH
MUTE SWITCH
METAL SWITCH
INPUT SWITCH
MUTE OUT
METAL OUT
EQ OUT
NFB
HEAD B
HEAD A
VCC
24
23
22
21
20
19
18
17
16
15
14
13
SENSE SWITCH
MUTE SWITCH
METAL SWITCH
INPUT SWITCH
VCC
SENSE SWITCH
COPA-LATOR
VBIAS
1
2
3
4
5
6
7
8
9
10
11
12
GND
TIME CONSTANT
LPF
LPF
NFB
MUTE OUT
METAL OUT
EQ OUT
NFB
HEAD B
HEAD B
VBIAS

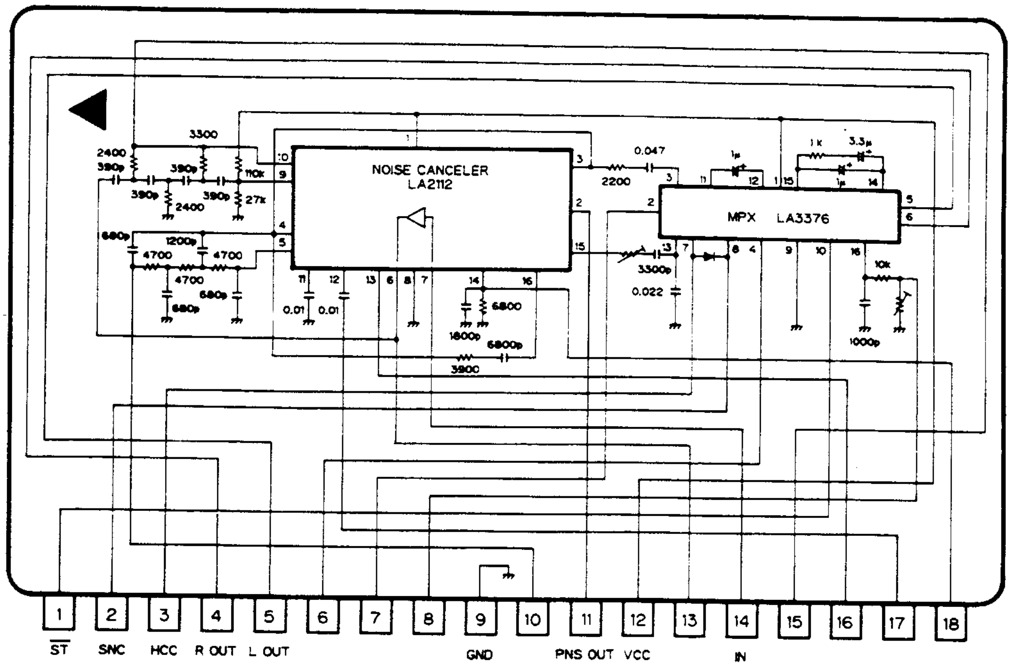
IC51 : LA1140B


1st
2nd
3rd
4th
5th
6th
Quadrature Limiter
Quadrature Detecter
AFC Drive
Level Detecter
Level Detecter
Level Detector
Inverter
Detecter
DC Level Detecter
AF Amp
Mute Amp
AGC Drive
Signal Meter Drive
Mute Drive
Regulated power Supply
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
IF-IN
GND
ARC
AF OUT
IF-OUT
GND
Vcc

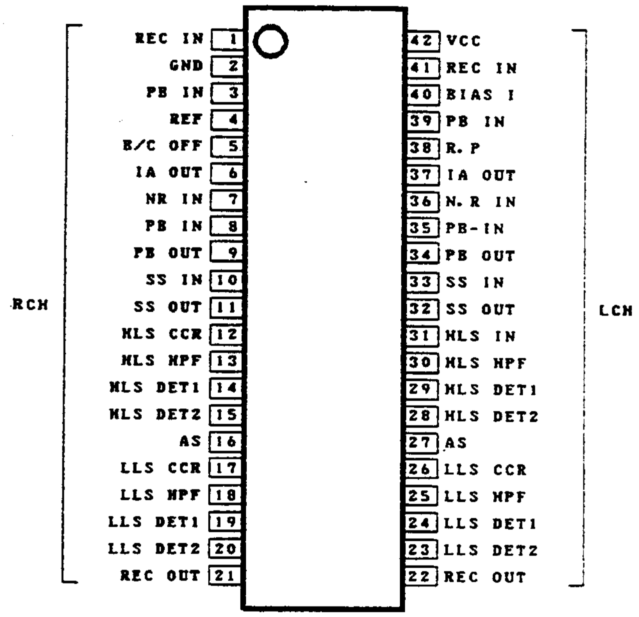
IC201 : PA4010


OSC1 OUT
OSC1 LC
C5
IF1 OUT A
IF1 OUT B
GND3
IF1 IN
Vcc2
IF2 OUT A
IF2 OUT B
C4
C3
FB
XTAL
IF2 IN C
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
BAFF
OSC(1)
AGC(2)
OSC(2)
MIX(1)
MIX(2)
WIDE AGC
S D
SM
AGC (1)
IF AMP
DET
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
RF IN A
RF IN B
GND1
AGC OUT1
AGC OUT2
C1
SD SW
SD OUT
SD IN
S OUT
GND2
C2
DET OUT
Vcc1
IF2 OUT C

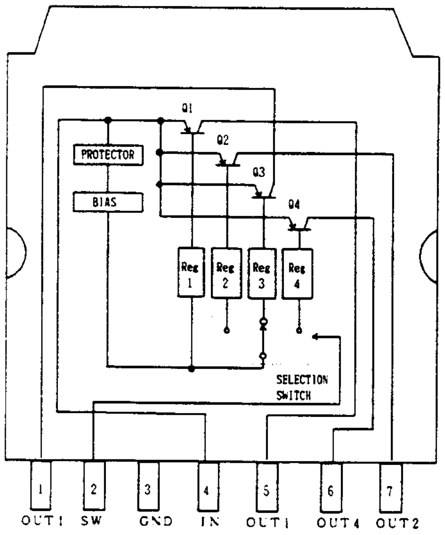
IC101 : KHA146


NOISE CANCELER
LA2112
MPX LA3376
3300
2400
390p
390p
390p
2400
390p
110k
27k
680p
1200p
4700
4700
4700
680p
680p
0.01
0.01
6800
1800p
6800p
3900
0.047
2200
1μ
1k
3.3μ
1μ
3300p
0.022
10k
1000p
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
ST
SNC
HCC
R OUT
L OUT
GND
PNS OUT
VCC
IN

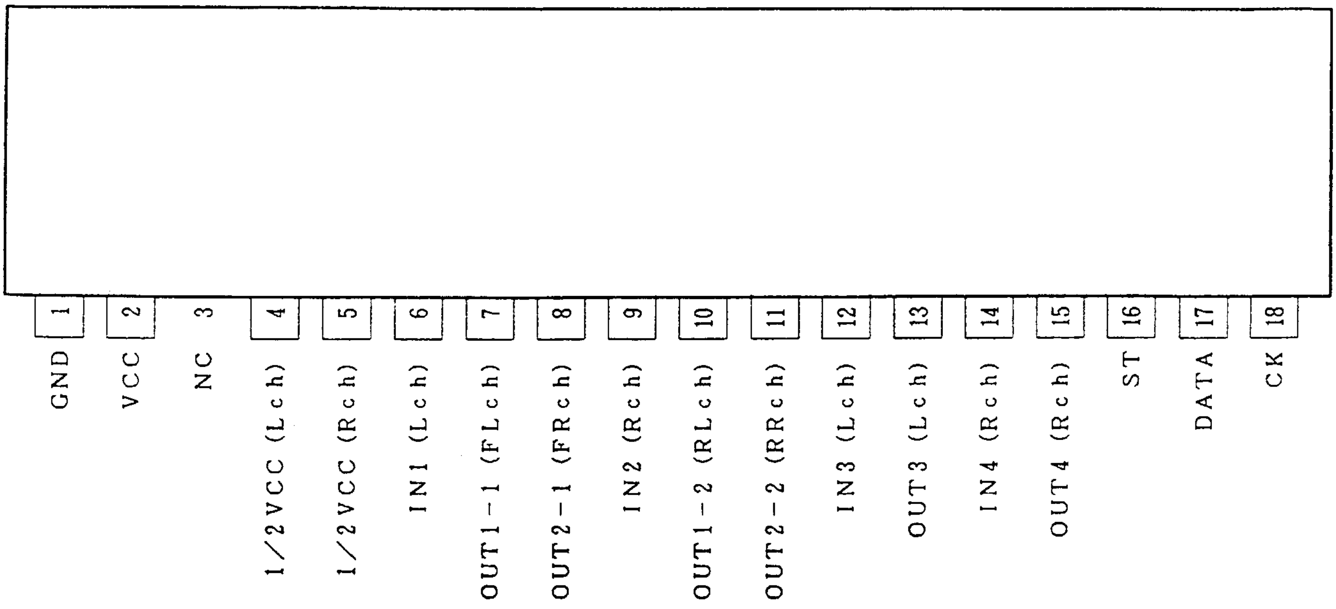
IC301 : HA12088ANT


RCH
LCH
REC IN 1
GND 2
PB IN 3
REF 4
B/C OFF 5
IA OUT 6
NR IN 7
PB IN 8
PB OUT 9
SS IN 10
SS OUT 11
HLS CCR 12
HLS HPF 13
HLS DET1 14
HLS DET2 15
AS 16
LLS CCR 17
LLS HPF 18
LLS DET1 19
LLS DET2 20
REC OUT 21
42 VCC
41 REC IN
40 BIAS I
39 PB IN
38 R. P
37 IA OUT
36 N. R IN
35 PB-IN
34 PB OUT
33 SS IN
32 SS OUT
31 HLS IN
30 HLS HPF
29 HLS DET1
28 HLS DET2
27 AS
26 LLS CCR
25 LLS HPF
24 LLS DET1
23 LLS DET2
22 REC OUT

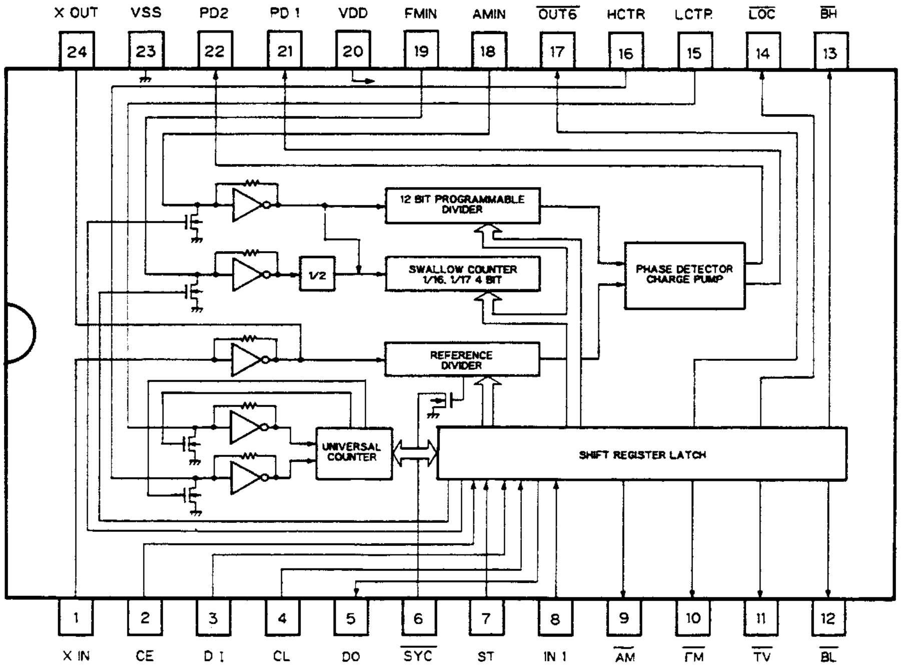
IC703 : TA8214K


PROTECTOR
BIAS
Q1
Q2
Q3
Q4
Reg 1
Reg 2
Reg 3
Reg 4
SELECTION SWITCH
1 OUT1
2 SW
3 GND
4 IN
5 OUT1
6 OUT4
7 OUT2

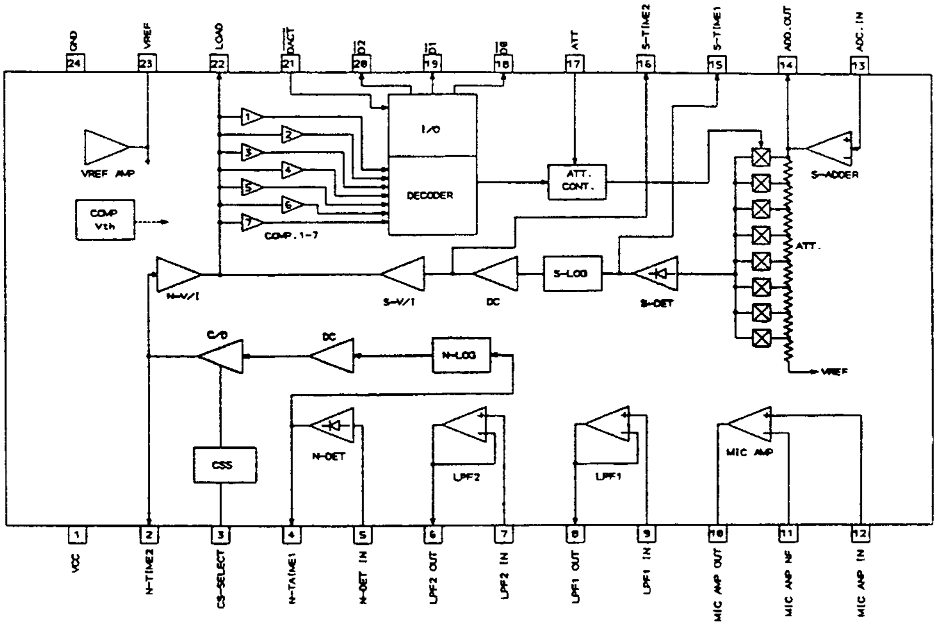
IC451 : KHA159A


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
GND
VCC
NC
1/2VCC (Lch)
1/2VCC (Rch)
IN1 (Lch)
OUT1-1 (FLch)
OUT2-1 (FRch)
IN2 (Rch)
OUT1-2 (RLch)
OUT2-2 (RRch)
IN3 (Lch)
OUT3 (Lch)
IN4 (Rch)
OUT4 (Rch)
ST
DATA
CK

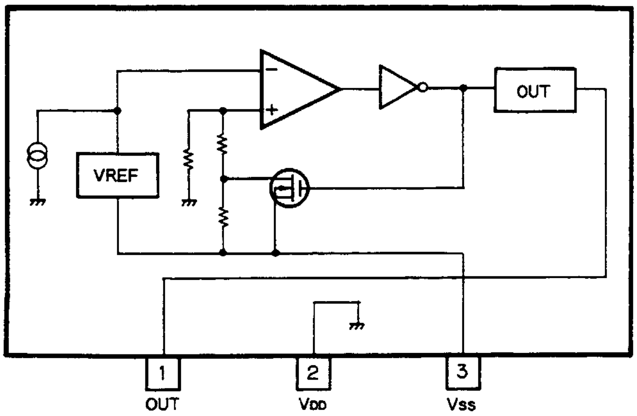
IC503 : LC7218


X OUT
VSS
PD2
PD 1
VDD
FMIN
AMIN
OUT6
HCTR
LCTR
LOC
BH
24
23
22
21
20
19
18
17
16
15
14
13
12 BIT PROGRAMMABLE DIVIDER
SWALLOW COUNTER 1/16, 1/17 4 BIT
1/2
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
1
2
3
4
5
6
7
8
9
10
11
12
X IN
CE
DI
CL
DO
SYC
ST
IN 1
AM
FM
TV
BL

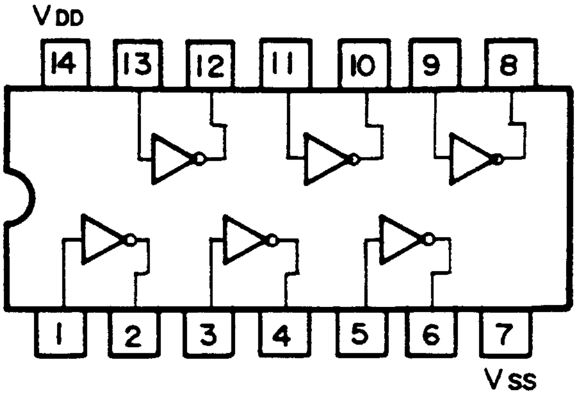
IC551 : PM2002


GND
VREF
LOAD
DACT
D2
D1
D0
ATT
S-TIME2
S-TIME1
ADD.OUT
ADC.IN
24
23
22
21
20
19
18
17
16
15
14
13
VREF AMP
COMP Vth
1
2
3
4
5
6
7
COMP.1-7
I/O
DECODER
ATT. CONT.
S-ADDER
ATT.
N-V/I
S-V/I
DC
S-LOG
S-DET
VREF
C/D
DC
N-LOG
CSS
N-DET
LPF2
LPF1
MIC AMP
1
2
3
4
5
6
7
8
9
10
11
12
VCC
N-TIME2
CS-SELECT
N-TAIME1
N-DET IN
LPF2 OUT
LPF2 IN
LPF1 OUT
LPF1 IN
MIC AMP OUT
MIC AMP NF
MIC AMP IN

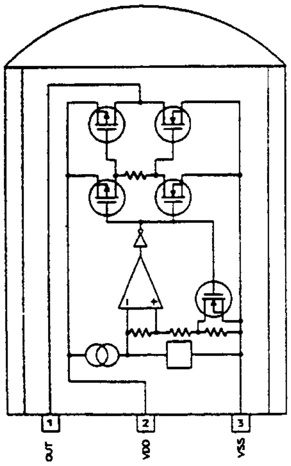
IC702 : S-8053ANO


VREF
OUT
1
OUT
2
VDD
3
Vss

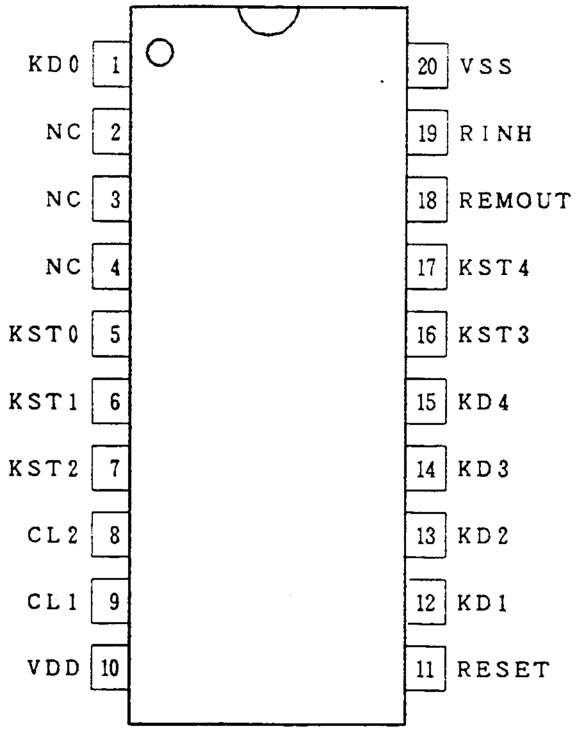
IC504 : TC4069UBP


VDD
14
13
12
11
10
9
8
1
2
3
4
5
6
7
Vss

IC901 : S-80740AH


1
2
3
OUT
VDD
VSS

IC904 : PD4189

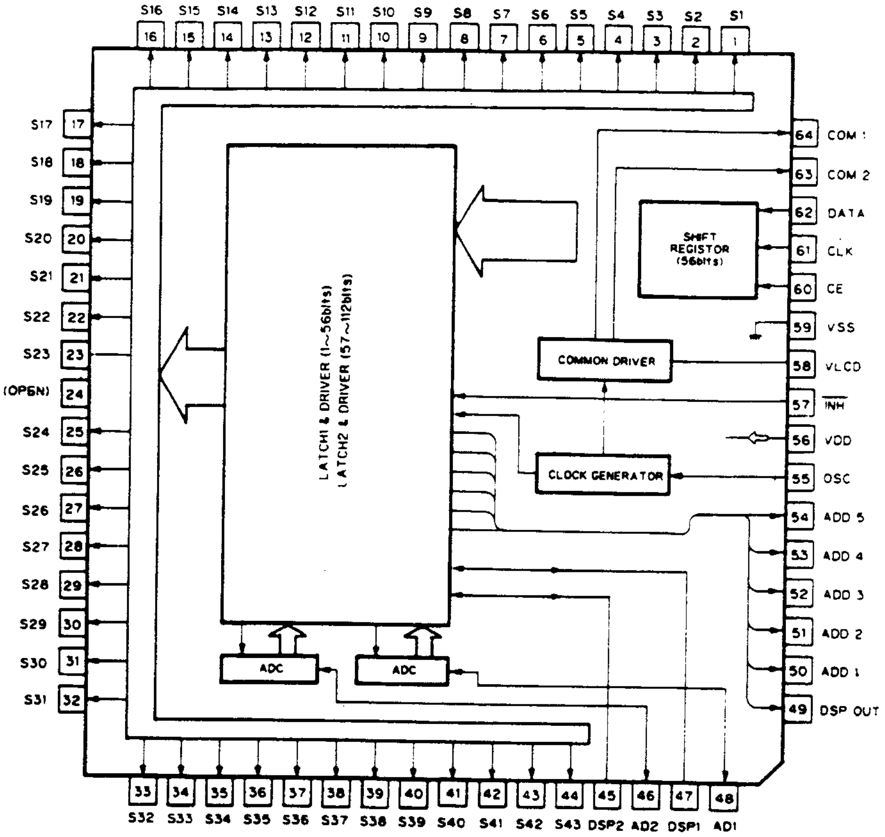

KD0
1
NC
2
NC
3
NC
4
KST0
5
KST1
6
KST2
7
CL2
8
CL1
9
VDD
10
20
VSS
19
RINH
18
REMOUT
17
KST4
16
KST3
15
KD4
14
KD3
13
KD2
12
KD1
11
RESET

• Pin Functions (PD4189)

Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	KDD	INPUT		Key return input
2—4	NC			
5—7	KST0—KST2	OUTPUT	NM	Key strobe output
8	CL2			System clock generator connector pin
9	CL1			System clock generator connector pin
10	VDD			
11	RESET	INPUT		Reset input
12—15	KD1—KD4	INPUT		Key return input
16, 17	KST3, KST4	OUTPUT	NM	Key strobe output
18	REMOUT	OUTPUT	NM	Remote controller data output
19	RINH	OUTPUT	NM	Remote controller OFF output when key data is outputed
20	VSS			GND

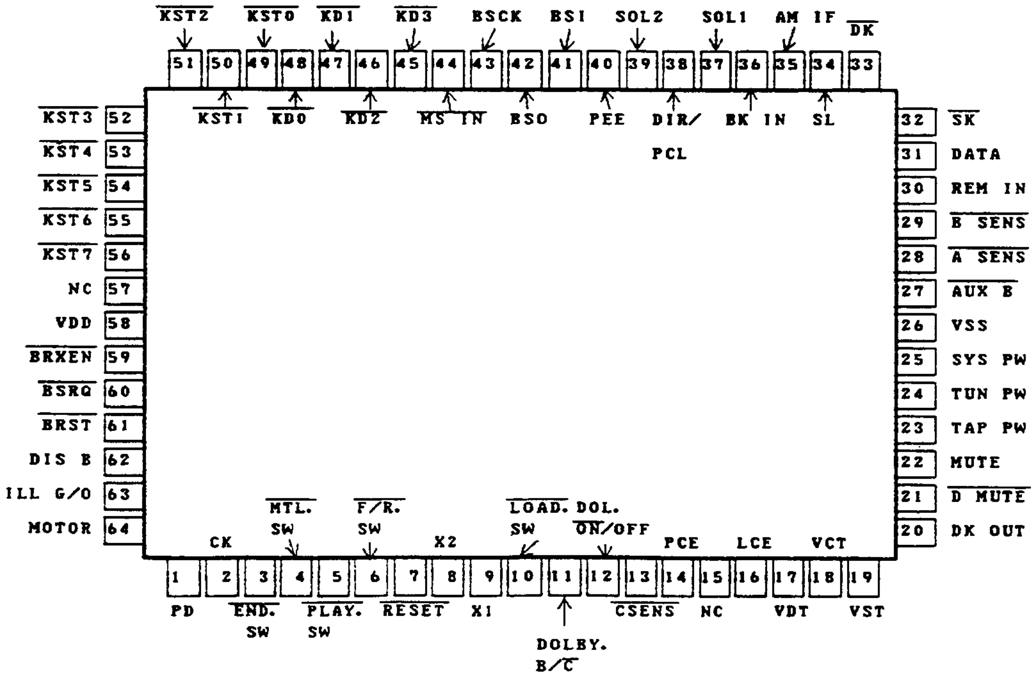
Output Format	Meaning
NM	Neutral resistivity N channel open drain

IC903 : LC7582P


S1 1
S2 2
S3 3
S4 4
S5 5
S6 6
S7 7
S8 8
S9 9
S10 10
S11 11
S12 12
S13 13
S14 14
S15 15
S16 16
S17 17
S18 18
S19 19
S20 20
S21 21
S22 22
S23 23
(OPEN) 24
S24 25
S25 26
S26 27
S27 28
S28 29
S29 30
S30 31
S31 32
S32 33
S33 34
S34 35
S35 36
S36 37
S37 38
S38 39
S39 40
S40 41
S41 42
S42 43
S43 44
DSP2 45
AD2 46
DSP1 47
AD1 48
49 DSP OUT
50 ADD 1
51 ADD 2
52 ADD 3
53 ADD 4
54 ADD 5
55 OSC
56 VDD
57 INH
58 VLCD
59 VSS
60 CE
61 CLK
62 DATA
63 COM 2
64 COM 1
SHIFT REGISTOR (56bits)
COMMON DRIVER
CLOCK GENERATOR
LATCH1 & DRIVER (1~56bits)
LATCH2 & DRIVER (57~112bits)
ADC
ADC

IC701 : *PD4188

*IC's marked by *are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.


PD 1
CK 2
END. SW 3
MTL. SW 4
PLAY. SW 5
F/R. SW 6
RESET 7
X2 8
X1 9
LOAD. SW 10
DOLBY. B/C 11
DOL. ON/OFF 12
CSENS 13
PCE 14
NC 15
LCE 16
VDT 17
VCT 18
VST 19
20 DK OUT
21 D MUTE
22 MUTE
23 TAP PW
24 TUN PW
25 SYS PW
26 VSS
27 AUX B
28 A SENS
29 B SENS
30 REM IN
31 DATA
32 SK
DK 33
SL 34
AM IF 35
BK IN 36
SOL1 37
DIR/PCL 38
SOL2 39
PEE 40
BSI 41
BSO 42
BSCK 43
MS IN 44
KD3 45
KD2 46
KD1 47
KD0 48
KST0 49
KST1 50
KST2 51
KST3 52
KST4 53
KST5 54
KST6 55
KST7 56
NC 57
VDD 58
BRXEN 59
BSRQ 60
BRST 61
DIS B 62
ILL G/O 63
MOTOR 64

- **Pin Functions (PD4188)**

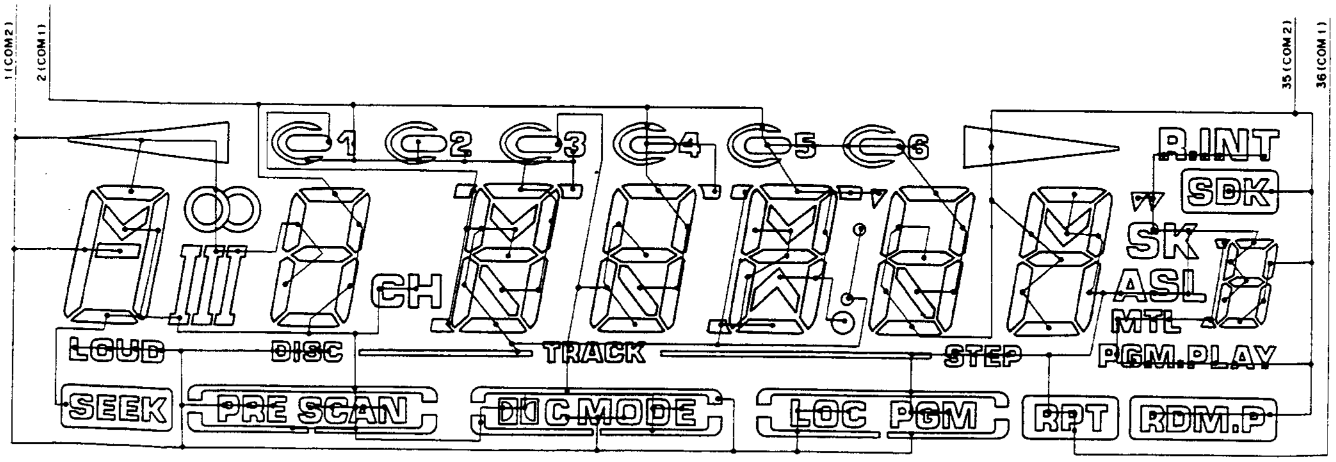
Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	PD	Output	C	LCD driver IC and PLL IC data line
2	CK	Output	C	LCD driver IC and PLL IC clock line
3	$\overline{\text{END. SW}}$	Input		Deck END sensor input
4	$\overline{\text{MTL. SW}}$	Input		Deck METAL(70 μS) sensor input
5	$\overline{\text{PLAY. SW}}$	Input		Deck head position(PLAY) sensor input
6	$\overline{\text{F/R. SW}}$	Input		Deck FWD/REV sensor input
7	$\overline{\text{RESET}}$	Input		Reset input
8	X2			Crystal oscillating element connection pin
9	X1			Crystal oscillating element connection pin
10	$\overline{\text{LOAD. SW}}$	Input		Deck LOAD/EJECT sensor input
11	DOLBY. B/$\overline{\text{C}}$	Output	C	Dolby NR B/C selector output
12	DOL. $\overline{\text{ON}}$/OFF	Output	C	Dolby NR ON/OFF selector output
13	$\overline{\text{CSENSE}}$	Input		Front panel OPEN/CLOSE sensor input
14	PCE	Output	C	Chip enable output for PLL IC (IC503:LC7218)
15	NC			Not used
16	LCE	Output	C	Chip enable output for LCD driver IC
17	VDT	Output	C	Data output for electronic volume IC(IC451:KHA159A)
18	VCK	Output	C	Clock output for electronic volume IC(IC451:KHA159A)
19	VST	Output	C	Strobe output for electronic volume IC(IC451:KHA159A)
20	DK OUT	Output	C	Tuner mute output
21	$\overline{\text{D MUTE}}$	Output	C	Deck mute output
22	MUTE	Output	C	System mute output
23	TAP PW	Output	C	Not used
24	TUN PW	Output	C	Tuner power supply control
25	SYS PW	Output	C	System(power amp)power supply control
26	VSS			GND
27	$\overline{\text{AUXB}}$	Input		AUX B sensor input
28	$\overline{\text{ASENSE}}$	Input		ACC power supply sensor input
29	$\overline{\text{BSENS}}$	Input		BACK UP power supply sensor input
30	REMIN	Input		Remote control pulse input
31	DATA	Input		Data input for PLL IC (IC503:LC7218)
32	$\overline{\text{SK}}$	Input		SK signal input
33	$\overline{\text{DK}}$	Input		DK signal input
34	SL	Input		Input level sensor input
35	AM IF	Input		AM IF count input
36	BK IN	Input		BK signal input
37	SOL1	Output	C	Output for deck solenoid 1 (head position)
38	DIR/PCL	Output	C	Deck FWD/REV head selector output
39	SOL2	Output	C	Output for deck solenoid 2 (DIR selector and EJECT)
40	PEE	Output	C	Beep tone output

Pin No.	Pin Name	I/O	Output Format	Function and Operation
41	BS I	Input		Bus serial data input
42	BS 0	Output	C	Bus serial data output
43	BSCK	Input/Output	C	Bus serial clock input/output
44	$\overline{\text{MS IN}}$	Input		Music signal input
45～48	$\overline{\text{KD3}}$～$\overline{\text{KD0}}$	Input		Key return input
49	$\overline{\text{KST0}}$	Output	NM	Model sense strobe output
50	$\overline{\text{KST1}}$	Output	NM	Model sense strobe output
51	$\overline{\text{KST2}}$	Output	NM	ASL strobe output
52	$\overline{\text{KST3}}$	Output	NM	Key strobe output
53	$\overline{\text{KST4}}$	Output	NM	ASL mode selector output 1
54	$\overline{\text{KST5}}$	Output	NM	ASL mode selector output 2
55	$\overline{\text{KST6}}$	Output	NM	Detaching and replaceing front panel control
56	$\overline{\text{KST7}}$	Output	NM	Strobe output for front panel open solenoid control
57	NC			
58	VDD			
59	$\overline{\text{BRXEN}}$	Input/Output	C	Bus reception enable line
60	$\overline{\text{BSRQ}}$	Input		Data communications serial poll request
61	$\overline{\text{BRST}}$	Output	C	Bus reset
62	DIS B	Output	C	AUX control output
63	ILL G/O	Output	C	Illumination green/amber selector output
64	MOTOR	Output	C	Deck main motor control output

Output Format	Meaning
C	CMOS Output
NM	Neutral resistivity N channel open drain

• LCD (CAW1042)

COMMON



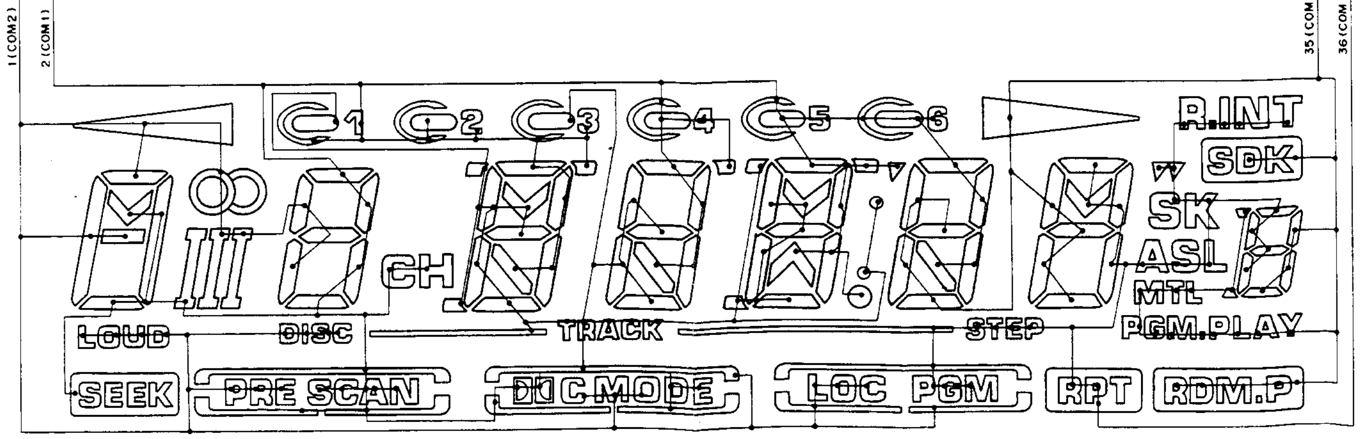
• Pin Functions (PD4188)

Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	PD	Output	C	LCD driver IC and PLL IC data line
2	CK	Output	C	LCD driver IC and PLL IC clock line
3	$\overline{\text{END. SW}}$	Input		Deck END sensor input
4	$\overline{\text{MTL. SW}}$	Input		Deck METAL(70μS)sensor input
5	$\overline{\text{PLAY. SW}}$	Input		Deck head position(PLAY)sensor input
6	$\overline{\text{F/R. SW}}$	Input		Deck FWD/REV sensor input
7	$\overline{\text{RESET}}$	Input		Reset input
8	X2			Crystal oscillating element connection pin
9	X1			Crystal oscillating element connection pin
10	$\overline{\text{LOAD. SW}}$	Input		Deck LOAD/EJECT sensor input
11	DOLBY. B/$\overline{\text{C}}$	Output	C	Dolby NR B/C selector output
12	DOL. $\overline{\text{ON}}$/OFF	Output	C	Dolby NR ON/OFF selector output
13	$\overline{\text{CSENSE}}$	Input		Front panel OPEN/CLOSE sensor input
14	PCE	Output	C	Chip enable output for PLL IC (IC503:LC7218)
15	NC			Not used
16	LCE	Output	C	Chip enable output for LCD driver IC
17	VDT	Output	C	Data output for electronic volume IC(IC451:KHA159A)
18	VCK	Output	C	Clock output for electronic volume IC(IC451:KHA159A)
19	VST	Output	C	Strobe output for electronic volume IC(IC451:KHA159A)
20	DK OUT	Output	C	Tuner mute output
21	$\overline{\text{D MUTE}}$	Output	C	Deck mute output
22	MUTE	Output	C	System mute output
23	TAP PW	Output	C	Not used
24	TUN PW	Output	C	Tuner power supply control
25	SYS PW	Output	C	System(power amp)power supply control
26	VSS			GND
27	$\overline{\text{AUXB}}$	Input		AUX B sensor input
28	$\overline{\text{ASENSE}}$	Input		ACC power supply sensor input
29	$\overline{\text{BSENS}}$	Input		BACK UP power supply sensor input
30	REMIN	Input		Remote control pulse input
31	DATA	Input		Data input for PLL IC (IC503:LC7218)
32	$\overline{\text{SK}}$	Input		SK signal input
33	$\overline{\text{DK}}$	Input		DK signal input
34	SL	Input		Input level sensor input
35	AM IF	Input		AM IF count input
36	BK IN	Input		BK signal input
37	SOL1	Output	C	Output for deck solenoid 1 (head position)
38	DIR/PCL	Output	C	Deck FWD/REV head selector output
39	SOL2	Output	C	Output for deck solenoid 2 (DIR selector and EJECT)
40	PEE	Output	C	Beep tone output
41	BS I	Input		Bus serial data input
42	BS O	Output	C	Bus serial data output
43	BSCK	Input/ Output	C	Bus serial clock input/output
44	$\overline{\text{MS IN}}$	Input		Music signal input
45~48	$\overline{\text{KD3}}$~$\overline{\text{KD0}}$	Input		Key return input
49	$\overline{\text{KST0}}$	Output	NM	Model sense strobe output
50	$\overline{\text{KST1}}$	Output	NM	Model sense strobe output
51	$\overline{\text{KST2}}$	Output	NM	ASL strobe output
52	$\overline{\text{KST3}}$	Output	NM	Key strobe output
53	$\overline{\text{KST4}}$	Output	NM	ASL mode selector output 1
54	$\overline{\text{KST5}}$	Output	NM	ASL mode selector output 2
55	$\overline{\text{KST6}}$	Output	NM	Detaching and replaceing front panel control
56	$\overline{\text{KST7}}$	Output	NM	Strobe output for front panel open solenoid control
57	NC			
58	VDD			
59	$\overline{\text{BRXEN}}$	Input/ Output	C	Bus reception enable line
60	$\overline{\text{BSRQ}}$	Input		Data communications serial poll request
61	$\overline{\text{BRST}}$	Output	C	Bus reset
62	DIS B	Output	C	AUX control output
63	ILL G/O	Output	C	Illumination green/amber selector output
64	MOTOR	Output	C	Deck main motor control output

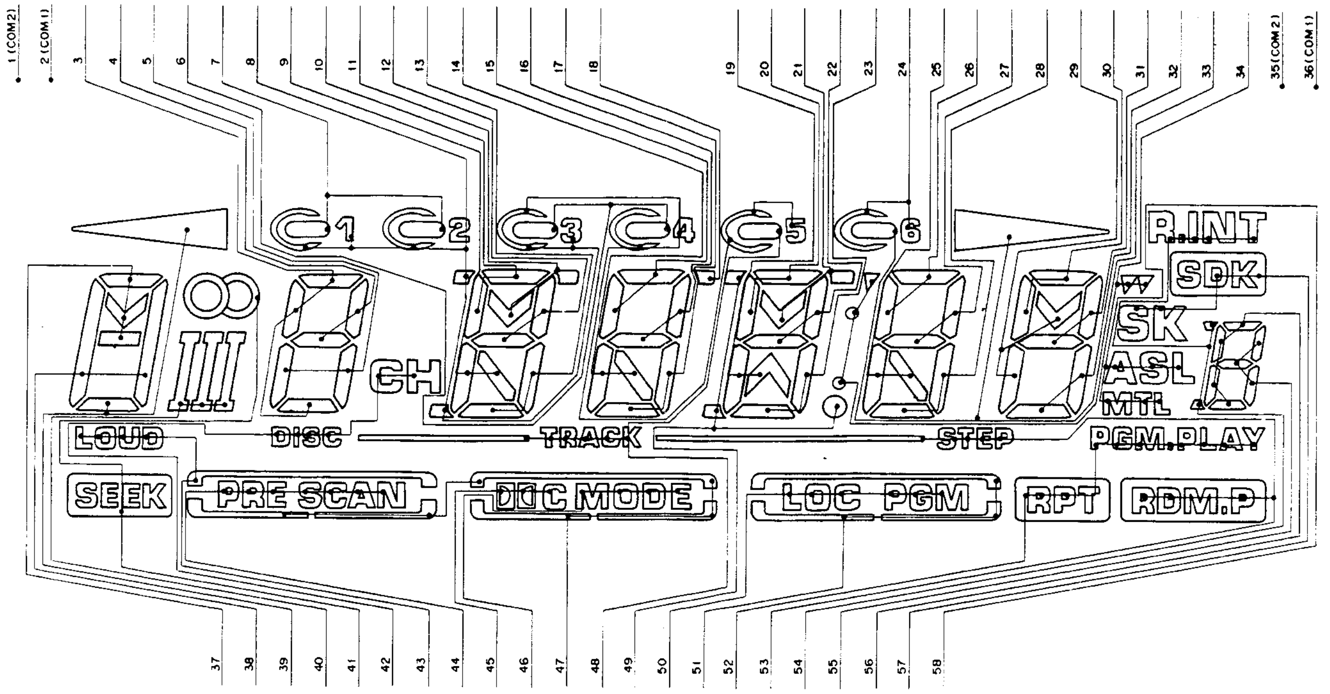
Output Format	Meaning
C	CMOS Output
NM	Neutral resistivity N channel open drain

• LCD (CAW1042)

COMMON

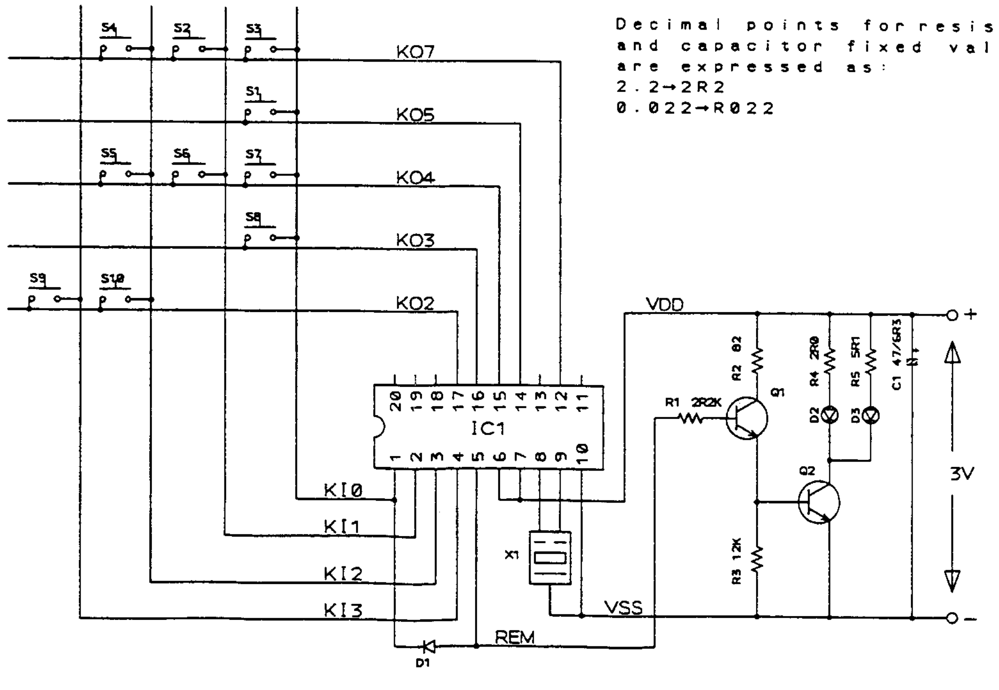


SEGMENT


1 (COM2)
2 (COM1)
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35 (COM2)
36 (COM1)
C1
C2
C3
C4
C5
C6
R.INT
SDK
SK
ASL
MTL
CH
LOUD
DISC
TRACK
STEP
PGM.PLAY
SEEK
PRE SCAN
DOC MODE
LOC PGM
RPT
RDM.P
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58

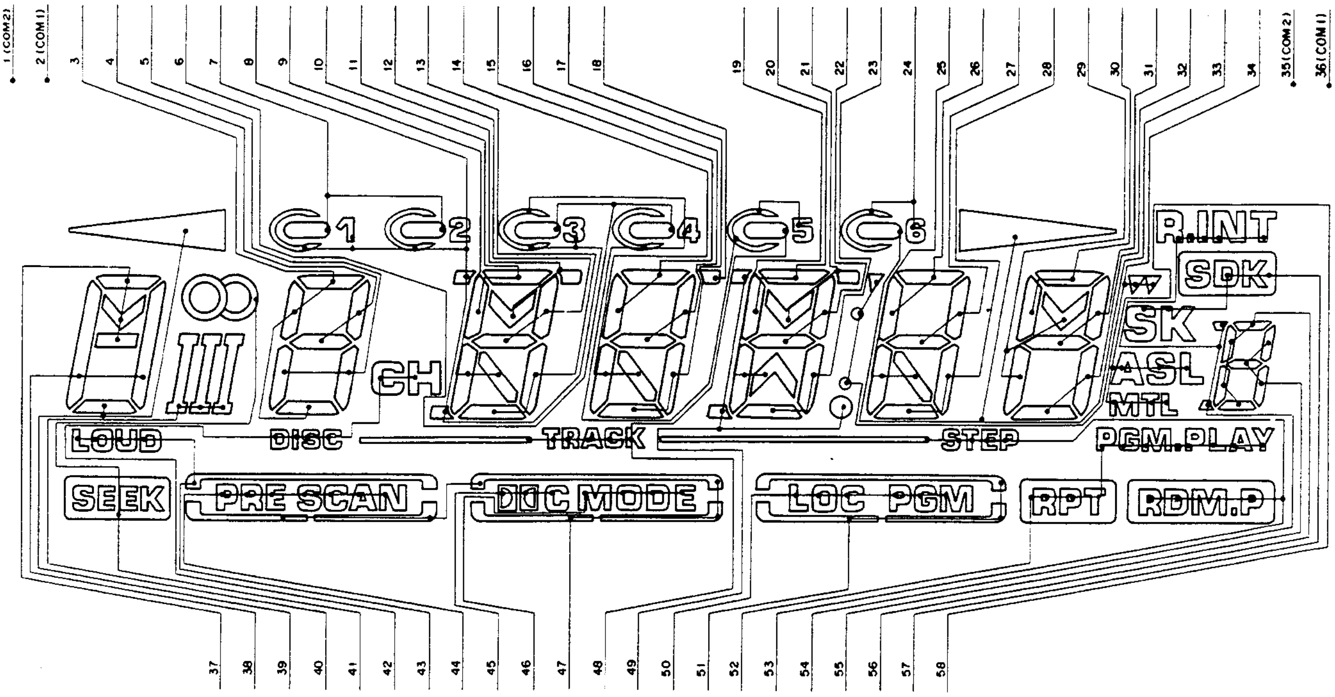
• Remote Control Assy

S1 : BSM
S2 : TAPE
S3 : TUNER
S4 : CD
S5 : BAND
S6 : − SOURCE
S7 : + SOURCE
S8 : ATT
S9 : − VOLUME
S10 : + VOLUME


S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
KO7
KO5
KO4
KO3
KO2
KI0
KI1
KI2
KI3
IC1
X1
D1
REM
VDD
VSS
R1 2R2K
R2 82
R3 12K
R4 2R0
R5 5R1
C1 47/6R3
Q1
Q2
D2
D3
3V
+
−

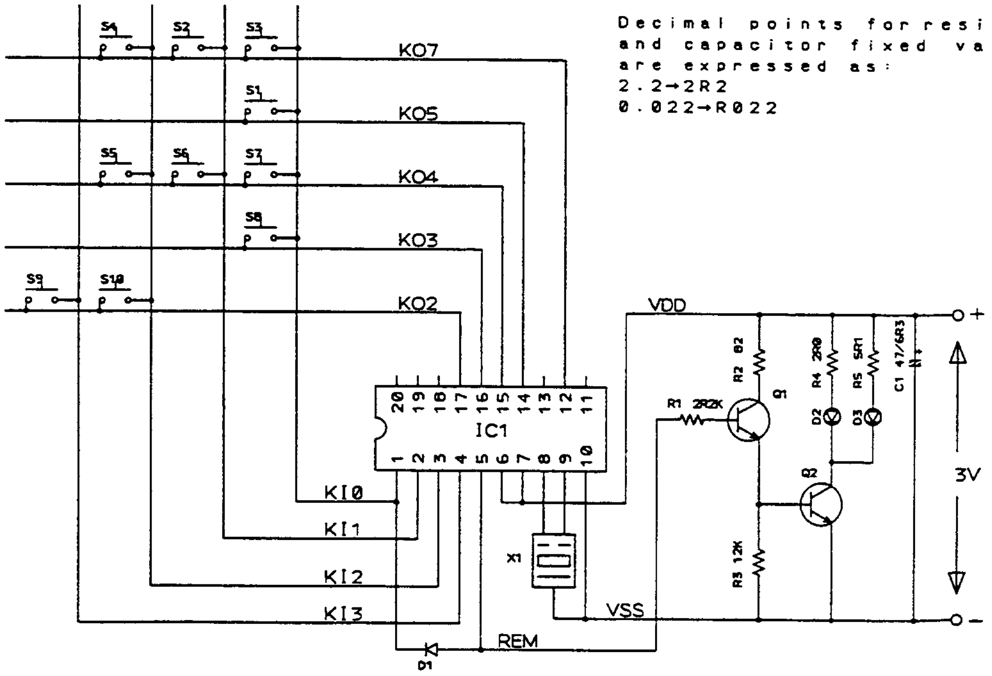
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

SEGMENT


1 (COM2)
2 (COM1)
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35 (COM2)
36 (COM1)
1
2
3
4
5
6
R.INT
SDK
SK
ASL
MTL
CH
LOUD
DISC
TRACK
STEP
PGM.PLAY
SEEK
PRE SCAN
DISC MODE
LOC PGM
RPT
RDM.P
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58

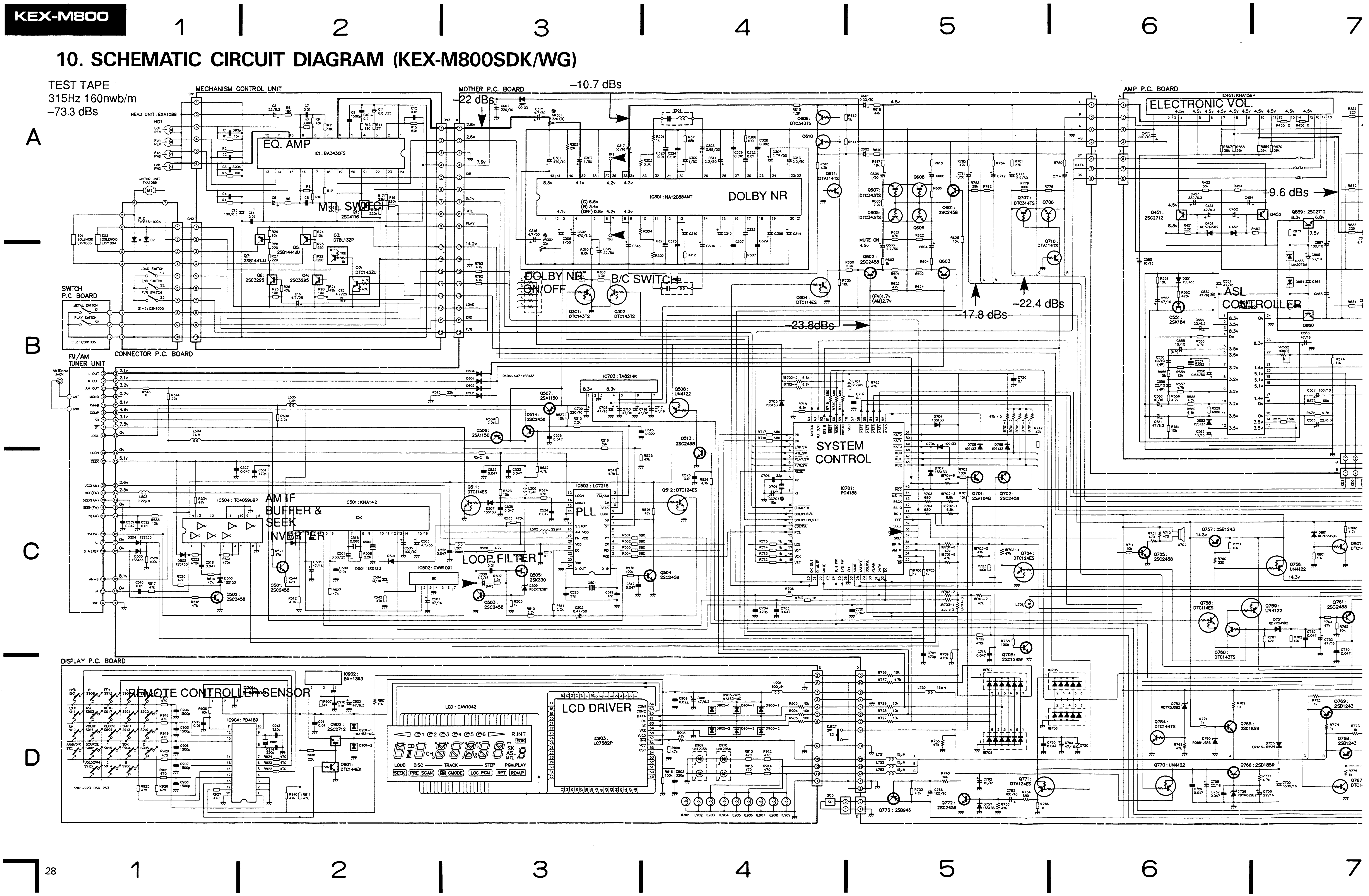
• Remote Control Assy

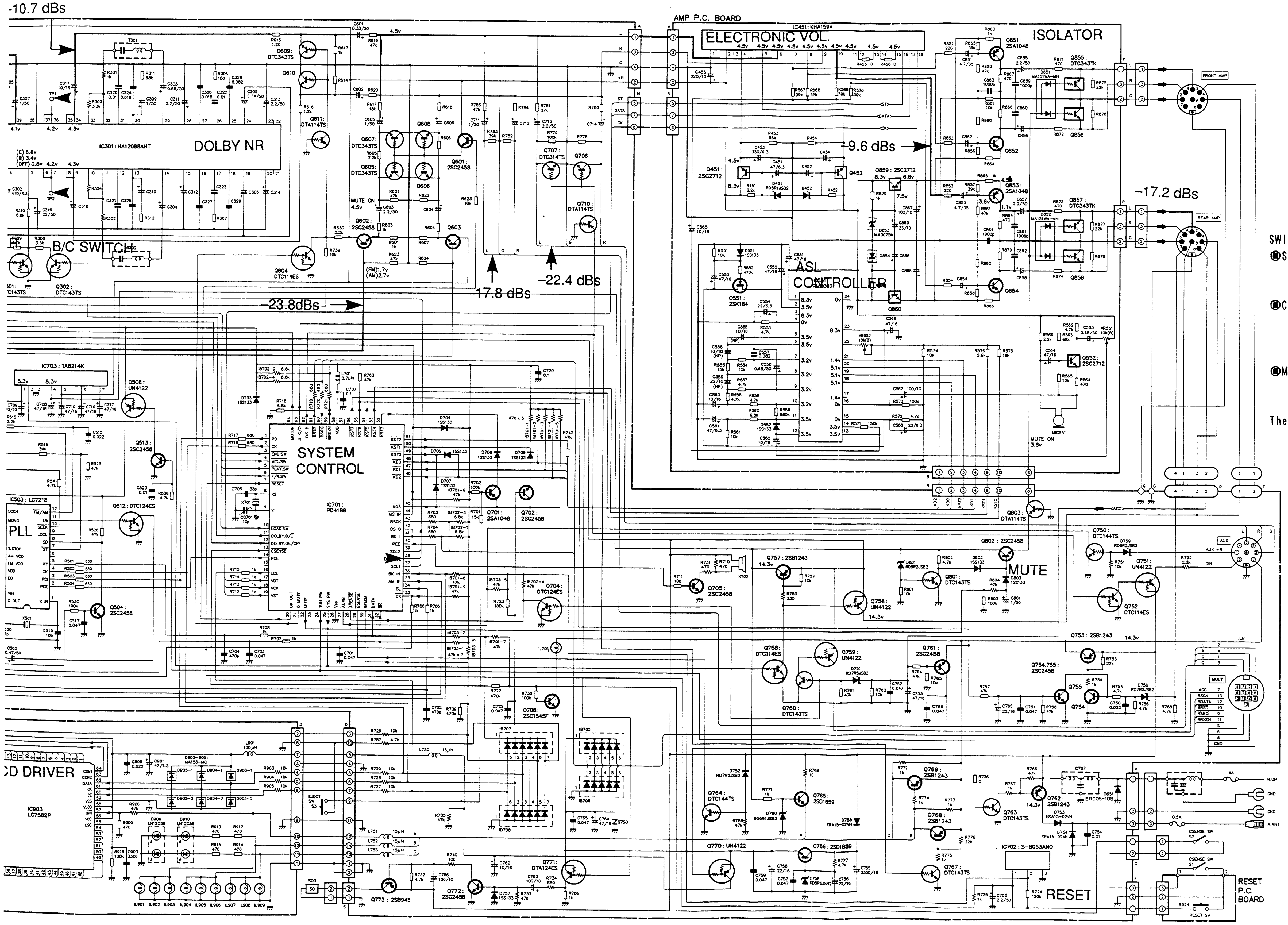
S1 : BSM
S2 : TAPE
S3 : TUNER
S4 : CD
S5 : BAND
S6 : − SOURCE
S7 : + SOURCE
S8 : ATT
S9 : − VOLUME
S10 : + VOLUME


S4
S2
S3
S1
S5
S6
S7
S8
S9
S10
KO7
KO5
KO4
KO3
KO2
VDD
IC1
KI0
KI1
KI2
KI3
VSS
REM
D1
X1
R1 2R2K
R2 82
R3 12K
R4 2R0
R5 5R1
C1 47/6R3
Q1
Q2
D2
D3
3V
+
−

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

10. SCHEMATIC CIRCUIT DIAGRAM (KEX-M800SDK/WG)


1
2
3
4
5
6
7
A
B
C
D
TEST TAPE
315Hz 160nwb/m
–73.3 dBs
MECHANISM CONTROL UNIT
MOTHER P.C. BOARD
AMP P.C. BOARD
–10.7 dBs
–22 dBs
HEAD UNIT : EXA1088
EQ. AMP
IC1 : BA3430FS
MTL SWITCH
DOLBY NR
IC301 : HA12088ANT
DOLBY NR ON/OFF
B/C SWITCH
ELECTRONIC VOL.
IC451 : KHA159A
–9.6 dBs
ASL CONTROLLER
17.8 dBs
–22.4 dBs
–23.8dBs
SWITCH P.C. BOARD
CONNECTOR P.C. BOARD
FM/AM TUNER UNIT
IC703 : TA8214K
SYSTEM CONTROL
IC701 : PD4188
AM IF BUFFER & SEEK INVERTER
IC504 : TC4069UBP
IC501 : KHA142
IC502 : CWW1091
IC503 : LC7218
PLL
LOOP FILTER
DISPLAY P.C. BOARD
REMOTE CONTROLLER SENSOR
IC902 : BX-1383
IC904 : PD4189
LCD : CAW1042
LCD DRIVER
IC903 : LC7582P
LOUD
DISC
TRACK
STEP
PGM.PLAY
SEEK
PRE SCAN
CMODE
LOC PGM
RPT
RDM.P
R.INT
SDK
ASL
MTL


4
5
6
7
8
9
A
B
C
D
-10.7 dBs
DOLBY NR
IC301 : HA12088ANT
B/C SWITCH
-23.8dBs
-17.8 dBs
-22.4 dBs
AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159A
-9.6 dBs
ISOLATOR
-17.2 dBs
FRONT AMP
REAR AMP
ASL CONTROLLER
IC703 : TA8214K
IC503 : LC7218
PLL
SYSTEM CONTROL
IC701 : PD4188
MUTE
MUTE ON 3.8v
CD DRIVER
IC903 : LC7582P
IC702 : S-8053ANO
RESET
RESET P.C. BOARD
EJECT SW S3
CSENSE SW S2
CSENSE SW S1
RESET SW
B.UP
GND
A.ANT
AUX
MULTI

NOTE :

- Indicates a chip resistor.
- Indicates a chip capacitor.
- Indicates a chip transistor.
- Indicates a chip diode.

SWITCHES:

●SWITCH P.C. BOARD

S1: METAL SWITCH·····················ON—OFF

S2: PLAY SWITCH······················ON—OFF

●CONNECTOR P.C. BOARD

S1: LOAD SWITCH······················ON—OFF

S2: END SWITCH·······················ON—OFF

S3: F/R SWITCH·······················ON—OFF

●MISCELLANEOUS

S1: CSENSE SWITCH····················ON—OFF

S2: CSENSE SWITCH····················ON—OFF

The underlined indicates the switch position.

Audio Tuner Unit

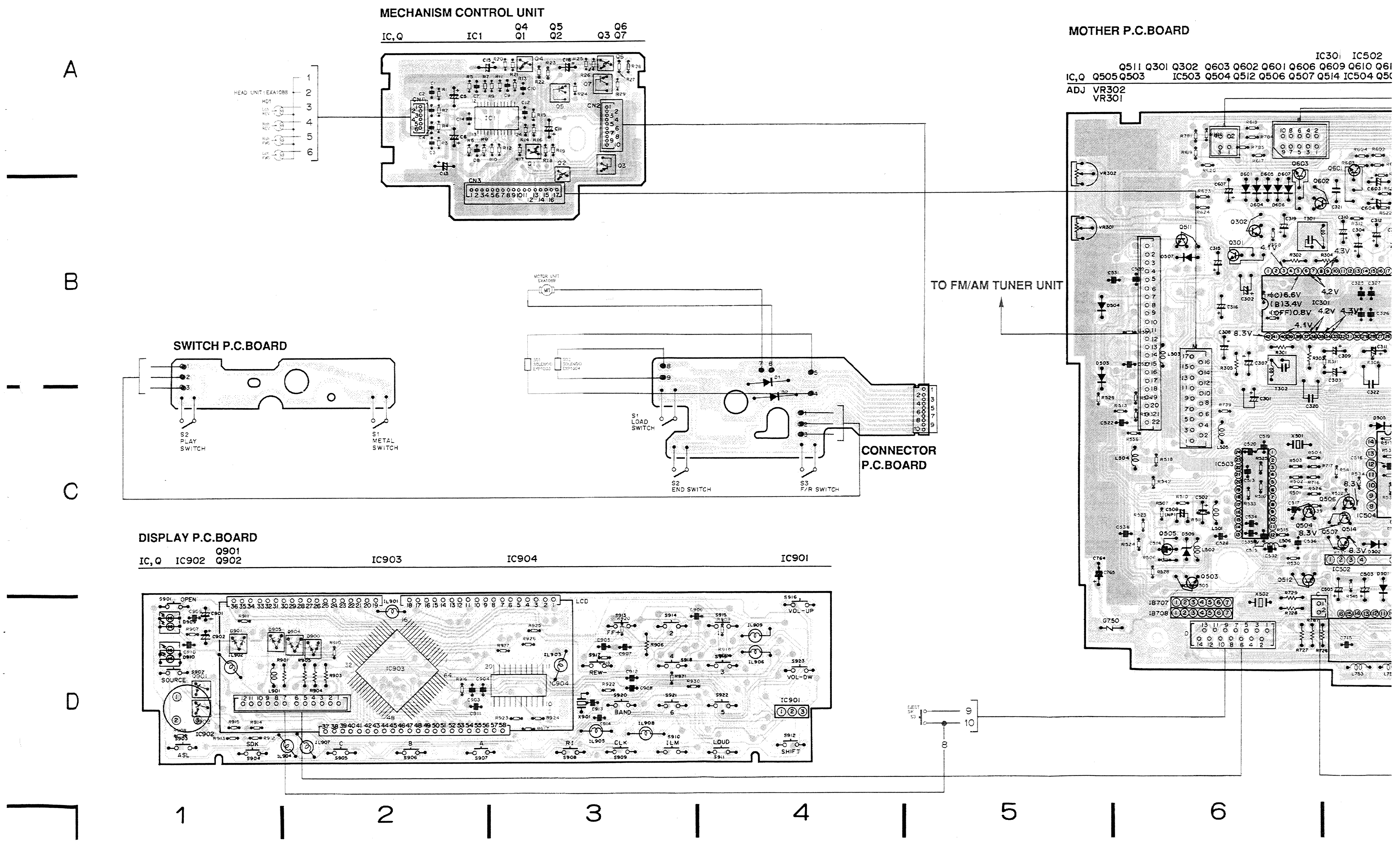
Consists of
- Amp P.C. Board
- Mother P.C. Board

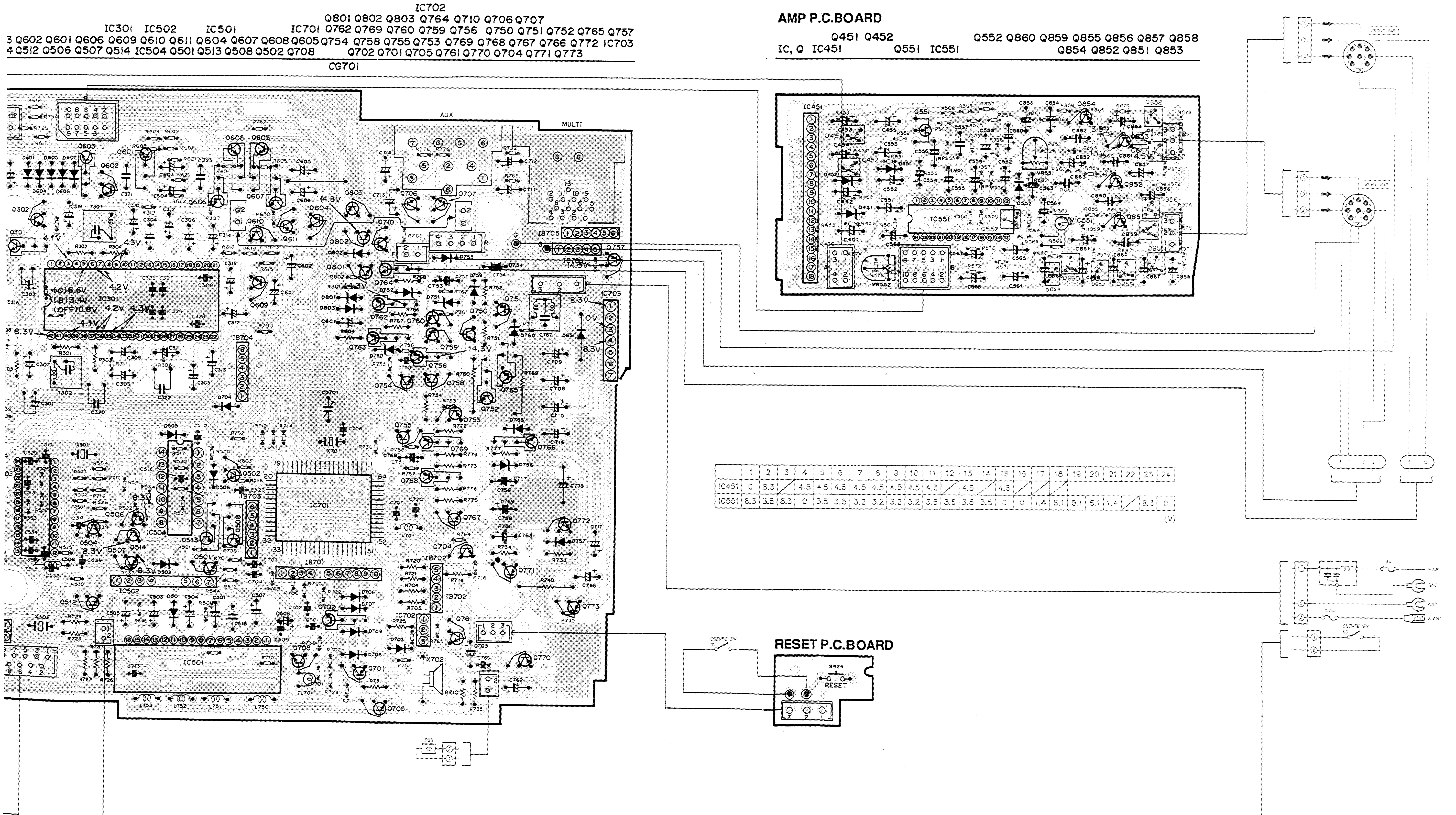
Display Unit

Consists of
- Display P.C. Board
- Reset P.C. Board

Fig. 22

11. CONNECTION DIAGRAM (KEX-M800SDK/WG)


1
2
3
4
5
6
A
B
C
D
MECHANISM CONTROL UNIT
IC,Q
IC1
Q4
Q1
Q5
Q2
Q3
Q6
Q7
HEAD UNIT : EXA1088
CN1
CN2
CN3
MOTOR UNIT EXA1089
TO FM/AM TUNER UNIT
SWITCH P.C.BOARD
S2 PLAY SWITCH
S1 METAL SWITCH
S1 LOAD SWITCH
S2 END SWITCH
S3 F/R SWITCH
CONNECTOR P.C.BOARD
MOTHER P.C.BOARD
IC,Q
Q505
Q511
Q503
Q301
Q302
IC503
Q603
Q504
Q602
Q512
Q601
Q506
Q606
Q507
IC301
Q609
Q514
IC502
Q610
IC504
ADJ
VR302
VR301
DISPLAY P.C.BOARD
IC,Q
IC902
Q901
Q902
IC903
IC904
IC901
LCD
OPEN
SOURCE
ASL
SDK
REW
FF
BAND
CLK
ILM
LOUD
SHIFT
VOL-UP
VOL-DW
RI
EJECT SW S3

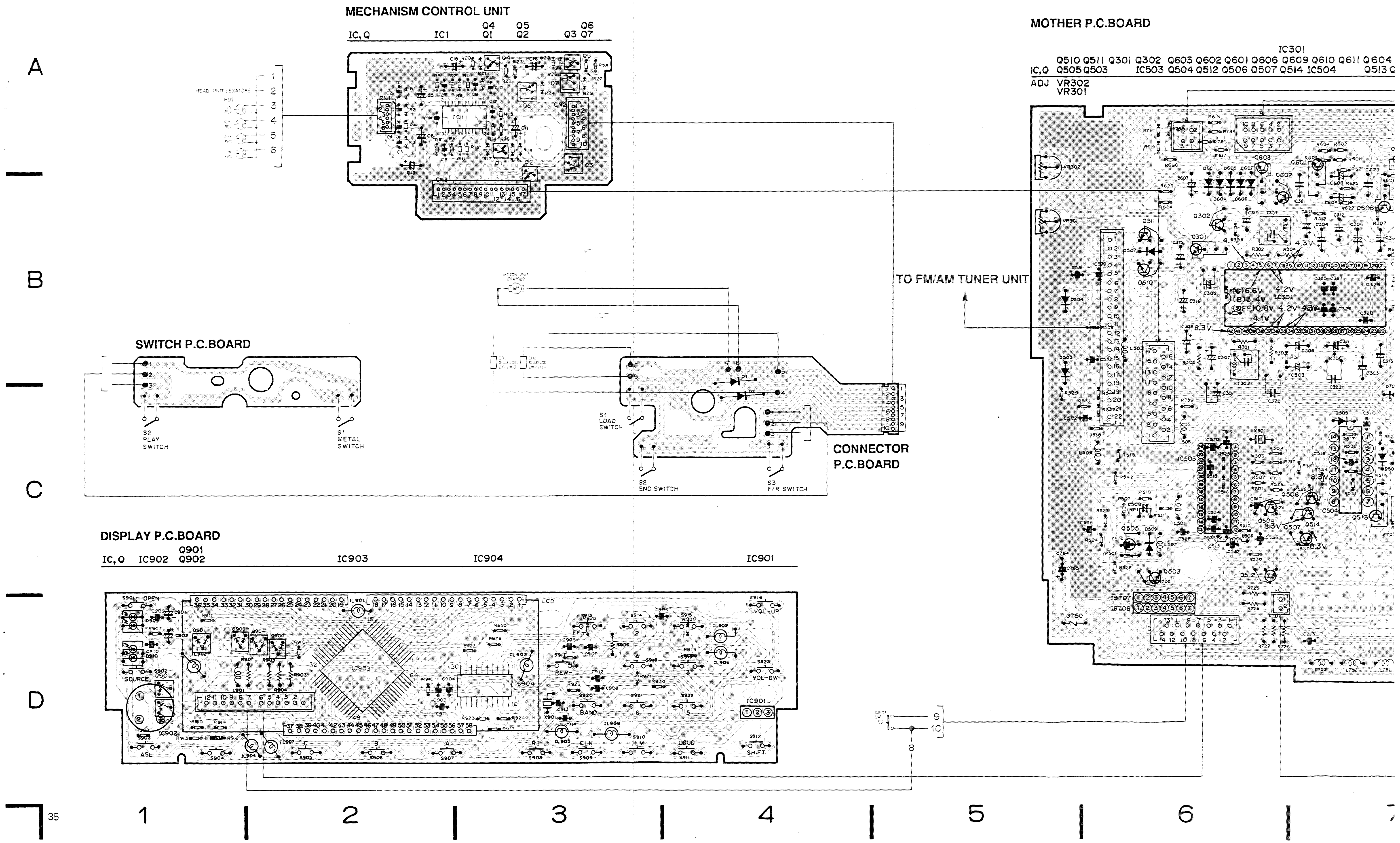

7
8
9
10
11
12
A
B
C
D
IC702
Q801 Q802 Q803 Q764 Q710 Q706 Q707
IC301 IC502 IC501 IC701 Q762 Q769 Q760 Q759 Q756 Q750 Q751 Q752 Q765 Q757
3 Q602 Q601 Q606 Q609 Q610 Q611 Q604 Q607 Q608 Q605 Q754 Q758 Q755 Q753 Q769 Q768 Q767 Q766 Q772 IC703
4 Q512 Q506 Q507 Q514 IC504 Q501 Q513 Q508 Q502 Q708 Q702 Q701 Q705 Q761 Q770 Q704 Q771 Q773
CG701
AMP P.C.BOARD
Q451 Q452 Q552 Q860 Q859 Q855 Q856 Q857 Q858
IC, Q IC451 Q551 IC551 Q854 Q852 Q851 Q853
AUX
MULTI
IC301
IC701
IC501
IC502
IC504
IC703
IC451
IC551
CG701
X701
X702
8.3V
4.2V
4.3V
14.3V
14.5V
6.6V
13.4V
0.8V
4.1V
0V
IB701
IB702
IB703
IB704
IB705
RESET P.C.BOARD
S924
RESET
FRONT AMP
REAR AMP
B.UP
GND
ANT
SENSE SW

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC451	0	8.3	/	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	/	4.5	/	4.5	/	/	/						
IC551	8.3	3.5	8.3	0	3.5	3.5	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	0	0	1.4	5.1	5.1	5.1	1.4	/	8.3	0

(V)

Fig. 23

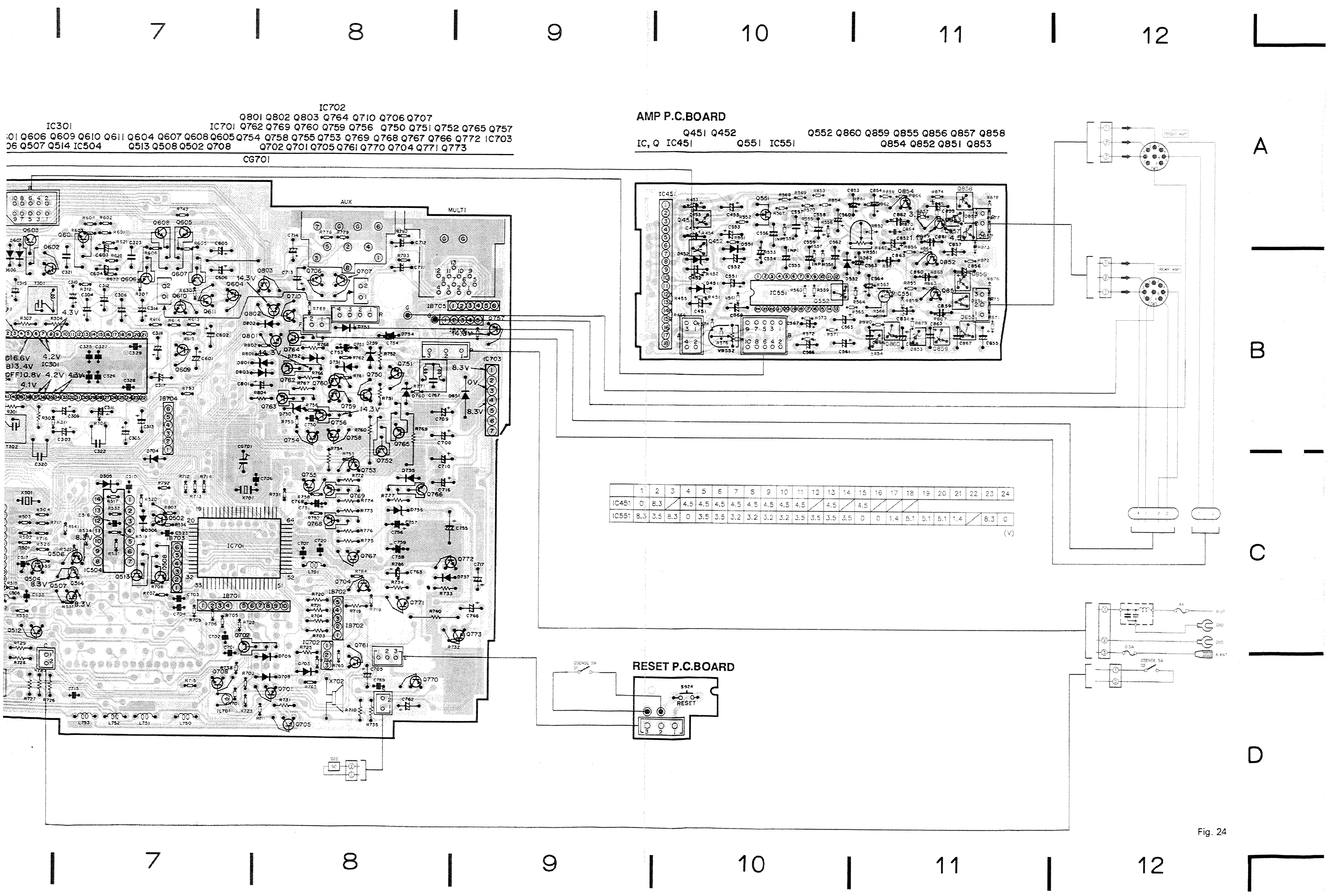
12. CONNECTION DIAGRAM (KEX-M800/EW)


1
2
3
4
5
6
A
B
C
D
MECHANISM CONTROL UNIT
IC, Q
IC1
Q4
Q1
Q5
Q2
Q3 Q7
Q6
CN1
CN2
CN3
HEAD UNIT : EXA1088
MOTHER P.C.BOARD
IC301
IC,Q
Q510 Q511 Q301 Q302 Q603 Q602 Q601 Q606 Q609 Q610 Q611 Q604
Q505 Q503 IC503 Q504 Q512 Q506 Q507 Q514 IC504 Q513
ADJ
VR302
VR301
TO FM/AM TUNER UNIT
SWITCH P.C.BOARD
S2 PLAY SWITCH
S1 METAL SWITCH
MOTOR UNIT
S1 LOAD SWITCH
S2 END SWITCH
S3 F/R SWITCH
CONNECTOR P.C.BOARD
DISPLAY P.C.BOARD
IC, Q
IC902
Q901
Q902
IC903
IC904
IC901
OPEN
SOURCE
ASL
LCD
FF
REW
BAND
CLK
ILM
LOUD
VOL-UP
VOL-DW
SHIFT
1
2
3
4
5
6
A
B
C
RI
BSM
4.3V
4.2V
4.1V
8.3V
(C)6.6V
(B)13.4V
(OFF)0.8V

IC702
Q801 Q802 Q803 Q764 Q710 Q706 Q707
IC301 IC701 Q762 Q769 Q760 Q759 Q756 Q750 Q751 Q752 Q765 Q757
01 Q606 Q609 Q610 Q611 Q604 Q607 Q608 Q605 Q754 Q758 Q755 Q753 Q769 Q768 Q767 Q766 Q772 IC703
06 Q507 Q514 IC504 Q513 Q508 Q502 Q708 Q702 Q701 Q705 Q761 Q770 Q704 Q771 Q773
CG701

AMP P.C.BOARD

Q451 Q452 Q552 Q860 Q859 Q855 Q856 Q857 Q858
IC, Q IC451 Q551 IC551 Q854 Q852 Q851 Q853

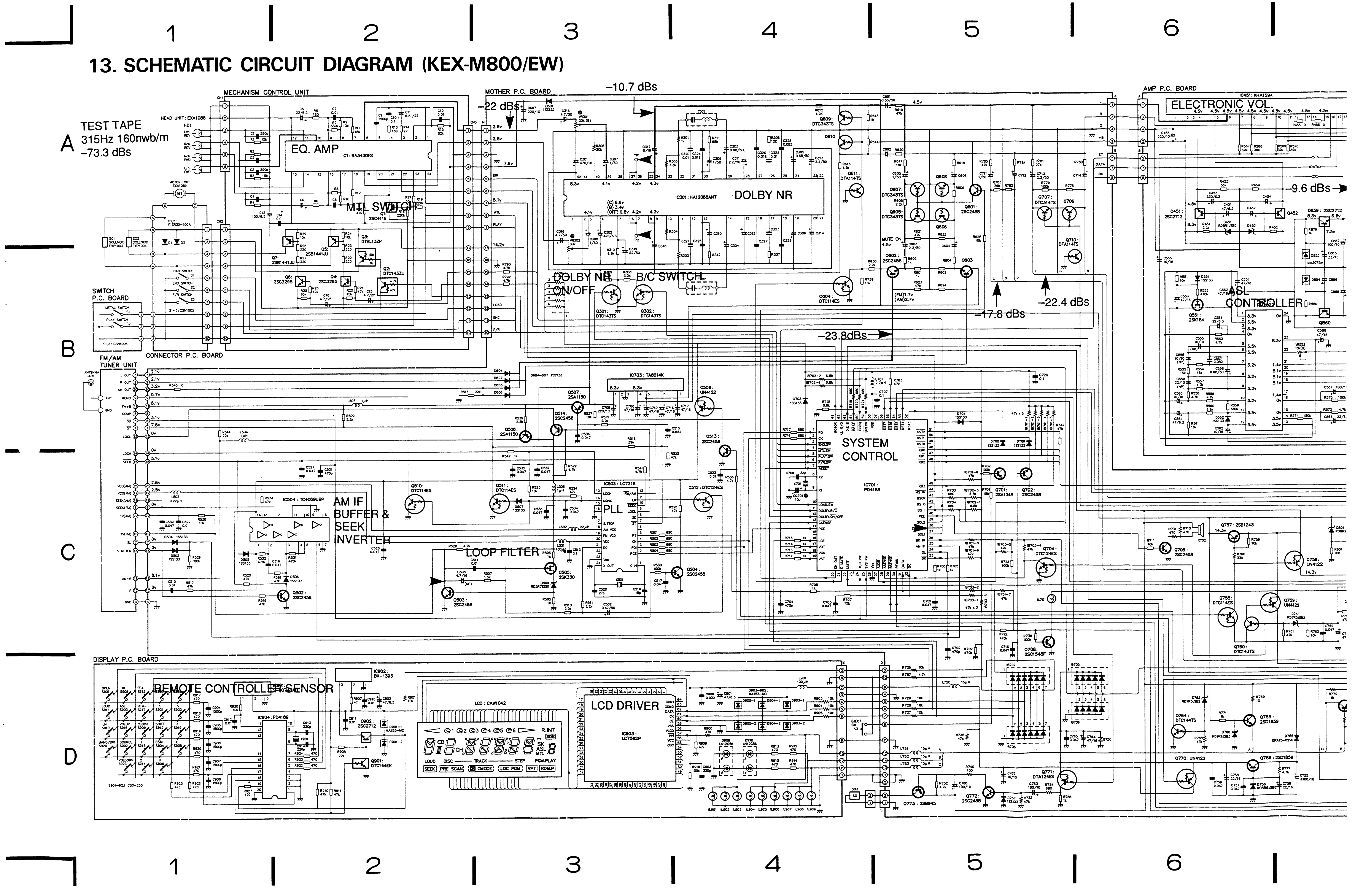

7
8
9
10
11
12
A
B
C
D
AUX
MULTI
IC301
IC701
IC703
IC504
CG701
IB701
IB702
IB703
IB704
IB705
IC451
IC551
VR552
8.3V
14.3V
4.3V
RESET P.C.BOARD
S924
RESET

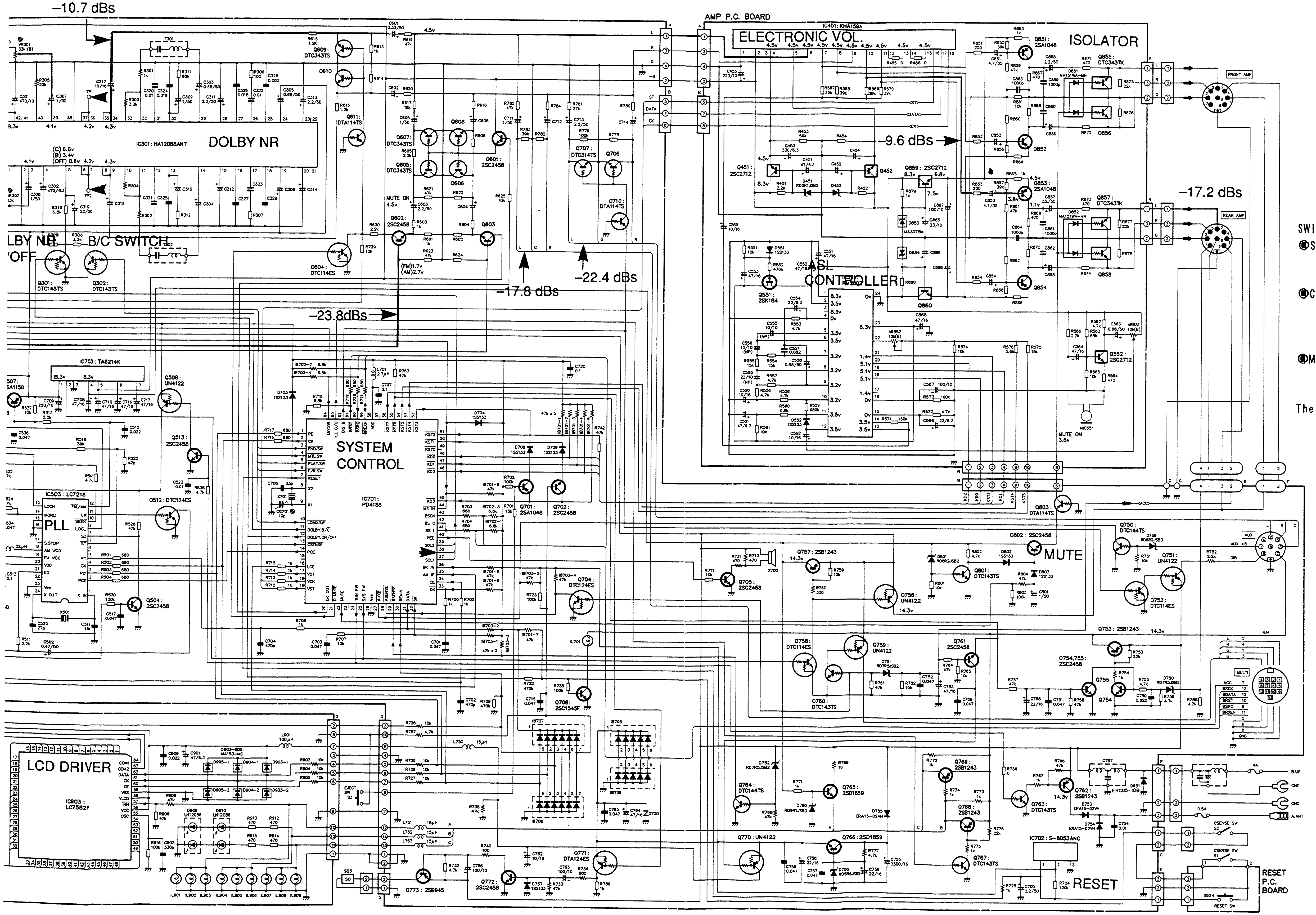
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC451	0	8.3	/	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	/	4.5	/	4.5	/	/	/						
IC551	8.3	3.5	8.3	0	3.5	3.5	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	0	0	1.4	5.1	5.1	5.1	1.4	/	8.3	0

(V)

Fig. 24

13. SCHEMATIC CIRCUIT DIAGRAM (KEX-M800/EW)


1
2
3
4
5
6
A
B
C
D
TEST TAPE
315Hz 160nwb/m
-73.3 dBs
MECHANISM CONTROL UNIT
HEAD UNIT : EXA1088
HD1
MOTOR UNIT EXA1089
M1
EQ. AMP
IC1 : BA3430FS
MTL SWITCH
Q1 : 2SC4116
Q3 : DTBL13ZP
Q2 : DTC143ZU
Q4 : 2SC3295
Q5 : 2SB1441JU
Q6 : 2SC3295
Q7 : 2SB1441JU
S01 SOLENOID EXP1003
S02 SOLENOID EXP1004
LOAD SWITCH S1
END SWITCH S2
F/R SWITCH S3
S1~3 : CSN1005
SWITCH P.C. BOARD
METAL SWITCH S1
PLAY SWITCH S2
S1, 2 : CSN1005
CONNECTOR P.C. BOARD
MOTHER P.C. BOARD
-10.7 dBs
-22 dBs
DOLBY NR
IC301 : HA12088ANT
DOLBY NR ON/OFF
B/C SWITCH
Q301 : DTC143TS
Q302 : DTC143TS
Q609 : DTC343TS
Q610
Q611 : DTA114TS
Q607 : DTC343TS
Q605 : DTC343TS
Q608
Q606
Q601 : 2SC2458
Q602 : 2SC2458
Q603
Q604 : DTC114ES
MUTE ON 4.5V
Q707 : DTC314TS
Q706
Q710 : DTA114TS
-17.8 dBs
-22.4 dBs
-23.8dBs
AMP P.C. BOARD
IC451 : KHA159A
ELECTRONIC VOL.
-9.6 dBs
Q451 : 2SC2712
Q452
Q659 : 2SC2712
ASL CONTROLLER
Q551 : 2SK184
Q660
FM/AM TUNER UNIT
ANTENNA JACK
ANT
GND
IC703 : TA8214K
Q507 : 2SA1150
Q508 : UN4122
Q506 : 2SA1150
Q514 : 2SC2458
Q513 : 2SC2458
Q510 : DTC114ES
Q511 : DTC114ES
IC503 : LC7218
PLL
Q512 : DTC124ES
IC504 : TC4069UBP
AM IF BUFFER & SEEK INVERTER
LOOP FILTER
Q505 : 2SK330
Q503 : 2SC2458
Q502 : 2SC2458
Q504 : 2SC2458
X501
SYSTEM CONTROL
IC701 : PD4188
X701
Q701 : 2SA1048
Q702 : 2SC2458
Q703
Q704 : DTC124ES
Q705 : 2SC2458
Q708 : 2SC1545F
Q757 : 2SB1243
Q756 : UN4122
Q758 : DTC114ES
Q759 : UN4122
Q760 : DTC143TS
DISPLAY P.C. BOARD
REMOTE CONTROLLER SENSOR
IC902 : BX-1393
IC904 : PD4189
X901
Q902 : 2SC2712
Q901 : DTC144EK
LCD : CAW1042
LCD DRIVER
IC903 : LC7582P
LOUD
DISC
TRACK
STEP
PGM.PLAY
SEEK
PRE SCAN
CMODE
LOC PGM
RPT
RDM.P
R.INT
SDK
ASL
MTL
EJECT SW S3
S01~923 : CSC-253
D905~905 : MA153-MC
Q773 : 2SB945
Q772 : 2SC2458
Q771 : DTA124ES
Q764 : DTC144TS
Q765 : 2SD1859
Q770 : UN4122
Q766 : 2SD1859
IL901
IL902
IL903
IL904
IL905
IL906
IL907
IL908
IL909
1
2
3
4
5
6


-10.7 dBs
DOLBY NR
IC301 : HA12088ANT
B/C SWITCH
AMP P.C. BOARD
IC451 : KHA159A
ELECTRONIC VOL.
ISOLATOR
-9.6 dBs
-17.2 dBs
-17.8 dBs
-22.4 dBs
-23.8dBs
ASL CONTROLLER
FRONT AMP
REAR AMP
IC703 : TA8214K
SYSTEM CONTROL
IC701 : PD4188
IC503 : LC7218
PLL
MUTE
LCD DRIVER
IC903 : LC7582F
IC702 : S-8053ANO
RESET
RESET P.C. BOARD
CSENSE SW
RESET SW
B.UP
GND
A.ANT
EJECT SW
AUX
MULTI

NOTE

Indicates a chip resistor.

Indicates a chip capacitor.

Indicates a chip transistor.

Indicates a chip diode.

A

SWITCHES:

●SWITCH P.C. BOARD
  S1: METAL SWITCH······················ON—OFF
  S2: PLAY SWITCH······················ON—OFF
●CONNECTOR P.C. BOARD
  S1: LOAD SWITCH······················ON—OFF
  S2: END SWITCH······················ON—OFF
  S3: F/R SWITCH······················ON—OFF
●MISCELLANEOUS
  S1: CSENSE SWITCH······················ON—OFF
  S2: CSENSE SWITCH······················ON—OFF

The underlined indicates the switch position.

B

Audio Tuner Unit

Consists of
- Amp P.C. Board
- Mother P.C. Board

C

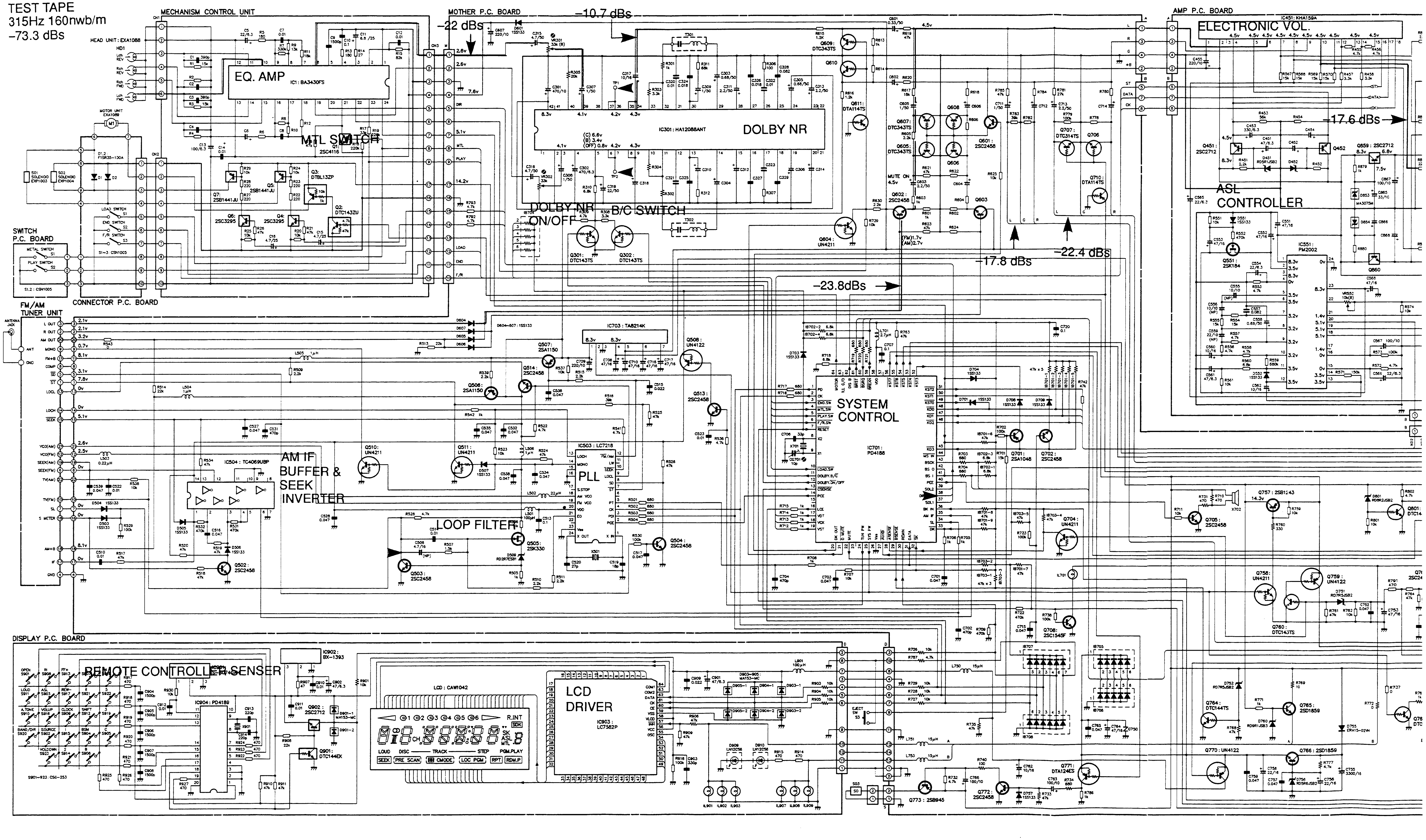
Display Unit

Consists of
- Display P.C. Board
- Reset P.C. Board

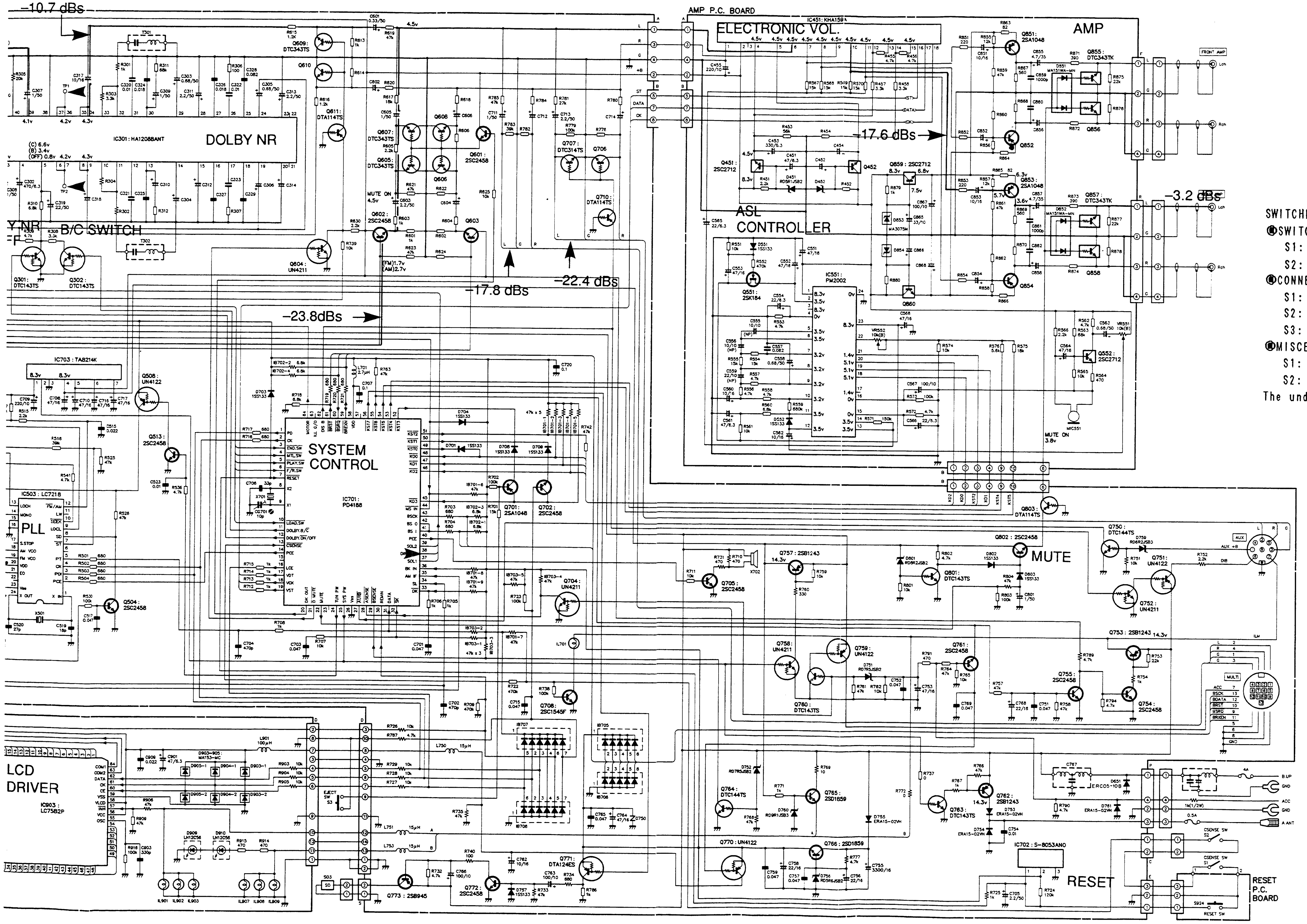
D

Fig. 25

14. SCHEMATIC CIRCUIT DIAGRAM (KEX-M800/ES)


1
2
3
4
5
6
7
A
B
C
D
TEST TAPE
315Hz 160nwb/m
-73.3 dBs
MECHANISM CONTROL UNIT
HEAD UNIT : EXA1088
EQ. AMP
IC1 : BA3430FS
MTL SWITCH
SWITCH P.C. BOARD
CONNECTOR P.C. BOARD
MOTHER P.C. BOARD
-22 dBs
-10.7 dBs
DOLBY NR
IC301 : HA12088ANT
DOLBY NR ON/OFF
B/C SWITCH
-23.8dBs
-17.8 dBs
-22.4 dBs
AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159A
-17.6 dBs
ASL CONTROLLER
IC551 : PM2002
FM/AM TUNER UNIT
AM IF BUFFER & SEEK INVERTER
IC504 : TC4069UBP
LOOP FILTER
PLL
IC503 : LC7218
IC703 : TA8214K
SYSTEM CONTROL
IC701 : PD4188
DISPLAY P.C. BOARD
REMOTE CONTROLLER SENSER
IC902 : BX-1393
IC904 : PD4189
LCD : CAW1042
LCD DRIVER
IC903 : LC7582P
LOUD
DISC
TRACK
STEP
PGM.PLAY
SEEK
PRE SCAN
CMODE
LOC PGM
RPT
RDM.P
R.INT
SDK
ASL
MTL

4 5 6 7 8 9



-10.7 dBs
DOLBY NR
IC301 : HA12088ANT
B/C SWITCH
-23.8dBs
-17.8 dBs
-22.4 dBs
AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159
AMP
-17.6 dBs
-3.2 dBs
ASL CONTROLLER
IC551 : PM2002
FRONT AMP
IC703 : TA8214K
SYSTEM CONTROL
IC701 : PD4188
IC503 : LC7218
PLL
MUTE
AUX
MULTI
LCD DRIVER
IC903 : LC7582P
EJECT SW
IC702 : S-8053ANO
RESET
RESET P.C. BOARD
RESET SW
CSENSE SW
B.UP
GND
ACC
A-ANT

NOTE
- Indicates a chip resistor.
- Indicates a chip capacitor.
- Indicates a chip transistor.
- Indicates a chip diode.

A

SWITCHES:

●SWITCH P.C.BOARD
  S1: METAL SWITCH··················ON—OFF
  S2: PLAY SWITCH···················ON—OFF
●CONNECTOR P.C.BOARD
  S1: LOAD SWITCH···················ON—OFF
  S2: END SWITCH····················ON—OFF
  S3: F/R SWITCH····················ON—OFF
●MISCELLANEOUS
  S1: CSENSE SWITCH·················ON—OFF
  S2: CSENSE SWITCH·················ON—OFF

The underlined indicates the switch position.

B

Audio Tuner Unit

Consists of
- Amp P.C.Board
- Mother P.C.Board

C

Display Unit

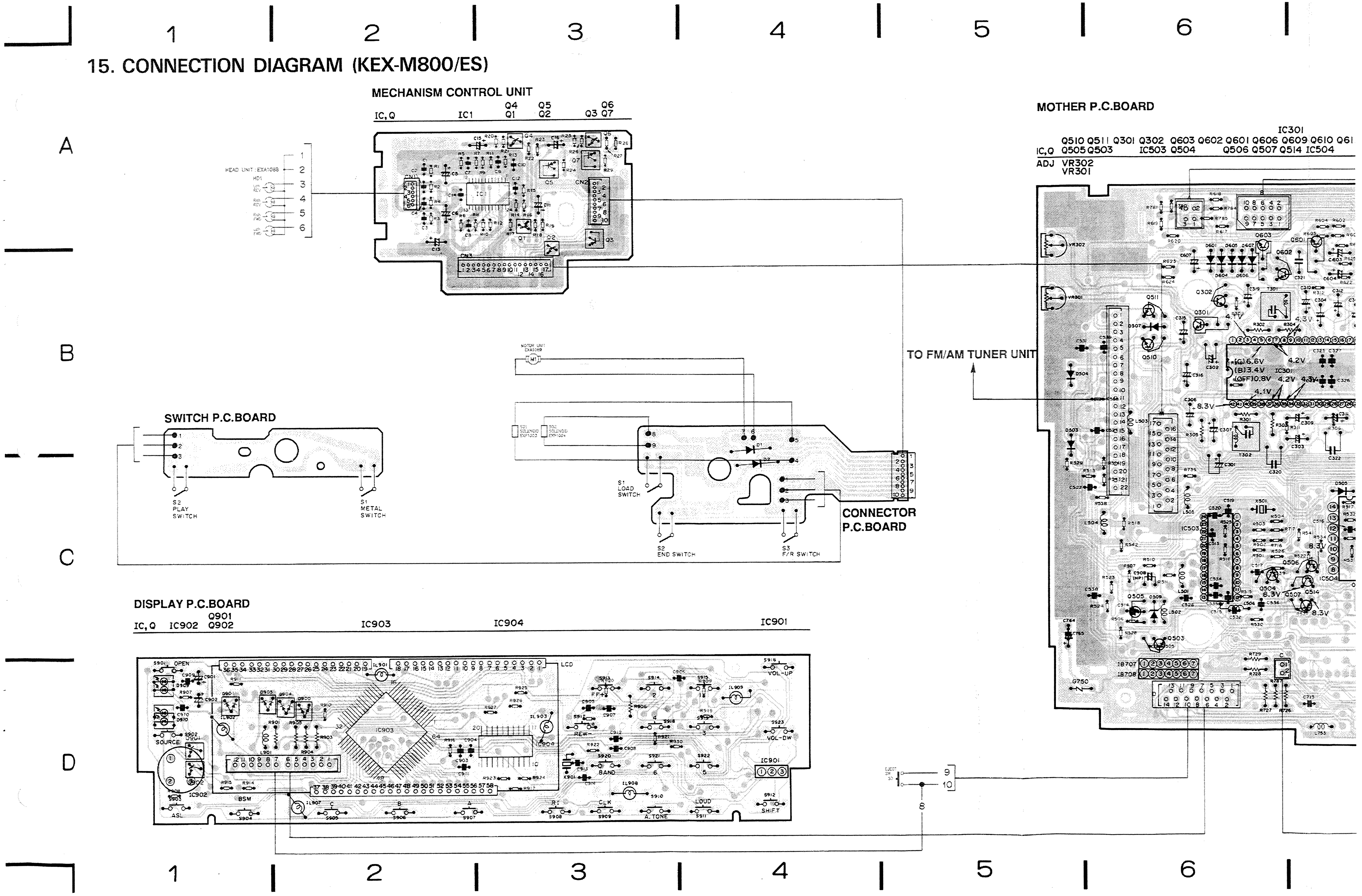
Consists of
- Display P.C.Board
- Reset P.C.Board

D

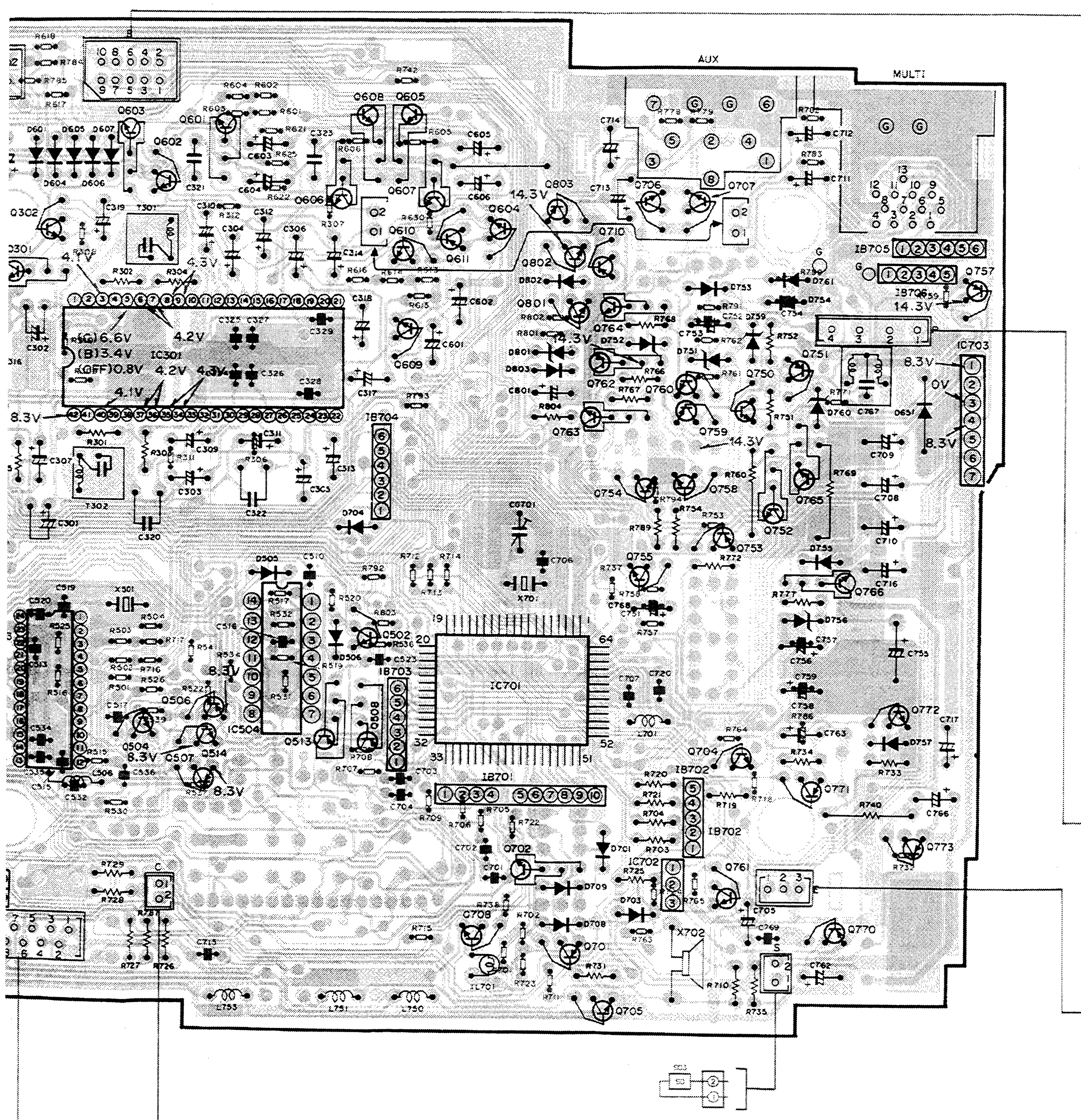
Fig. 26

4 5 6 7 8 9

15. CONNECTION DIAGRAM (KEX-M800/ES)

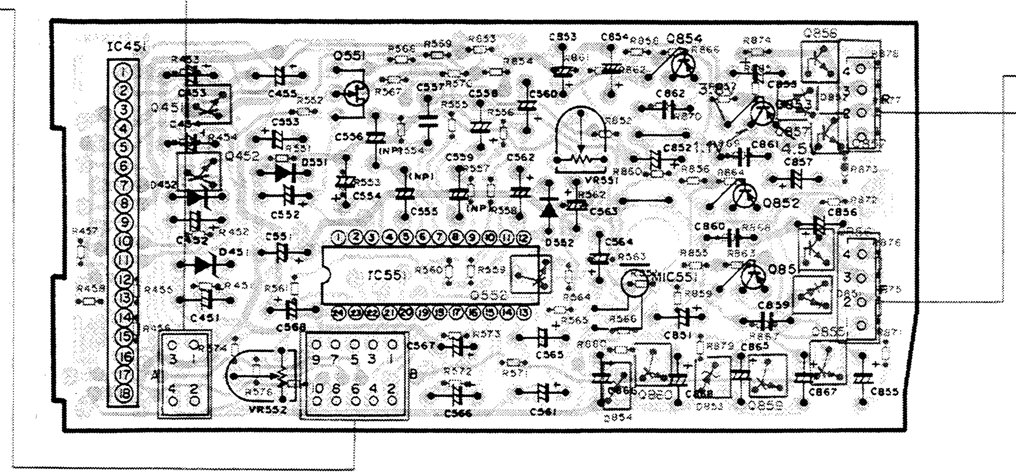

1
2
3
4
5
6
A
B
C
D
MECHANISM CONTROL UNIT
IC, Q
IC1
Q4
Q1
Q5
Q2
Q6
Q3 Q7
HEAD UNIT : EXA1088
HD1
CN1
CN2
CN3
MOTHER P.C.BOARD
IC301
Q510 Q511 Q301 Q302 Q603 Q602 Q601 Q606 Q609 Q610 Q61
IC,Q
Q505 Q503
IC503 Q504
Q506 Q507 Q514 IC504
ADJ
VR302
VR301
TO FM/AM TUNER UNIT
SWITCH P.C.BOARD
S2
PLAY
SWITCH
S1
METAL
SWITCH
MOTOR UNIT
EXA1089
M1
S1
LOAD
SWITCH
S2
END SWITCH
S3
F/R SWITCH
CONNECTOR
P.C.BOARD
DISPLAY P.C.BOARD
IC, Q
IC902
Q901
Q902
IC903
IC904
IC901
LCD
OPEN
SOURCE
ASL
BSM
REW
FF
BAND
CLK
A.TONE
LOUD
SHIFT
VOL-UP
VOL-DW
6.6V
3.4V
0.8V
4.2V
4.3V
4.1V
8.3V

IC702
Q801 Q802 Q803 Q764 Q710 Q706 Q707
IC301 IC701 Q762 Q769 Q760 Q759 Q750 Q751 Q752 Q765 Q757
Q602 Q601 Q606 Q609 Q610 Q611 Q604 Q607 Q608 Q605 Q754 Q758 Q755 Q753 Q766 Q772 IC703
Q506 Q507 Q514 IC504 Q513 Q508 Q502 Q708 Q702 Q701 Q705 Q761 Q770 Q704 Q771 Q773
CG701


AUX
MULTI
IC301
IC701
IC702
IC703
IC504
IB701
IB702
IB703
IB704
IB705
IB706
X701
X702
14.3V
4.2V
8.3V
0V

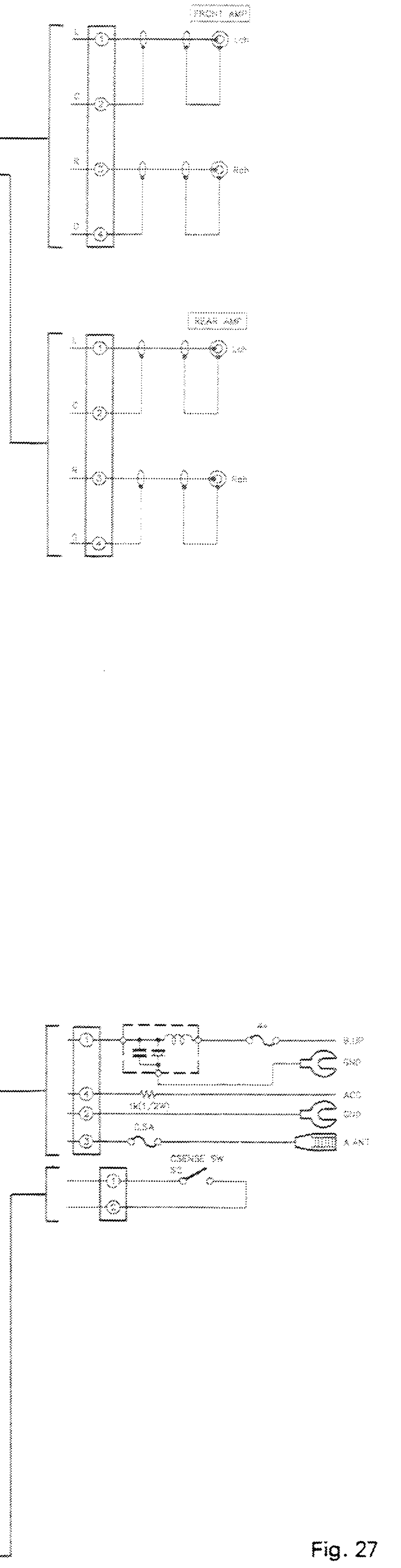
AMP P.C.BOARD

Q451 Q452 Q552 Q860 Q859 Q855 Q856 Q857 Q858
IC, Q IC451 Q551 IC551 Q854 Q852 Q851 Q853


IC451
IC551
VR552

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC451	0	8.3	/	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	/	4.5	/	4.5	/	/	/						
IC551	8.3	3.5	8.3	0	3.5	3.5	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	0	0	1.4	5.1	5.1	5.1	1.4	/	8.3	0

(V)


FRONT AMP
REAR AMP
A
B
C
D

RESET P.C.BOARD

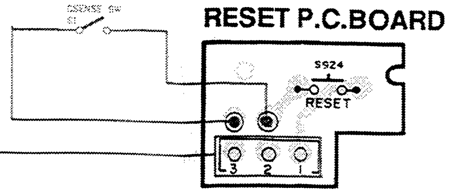
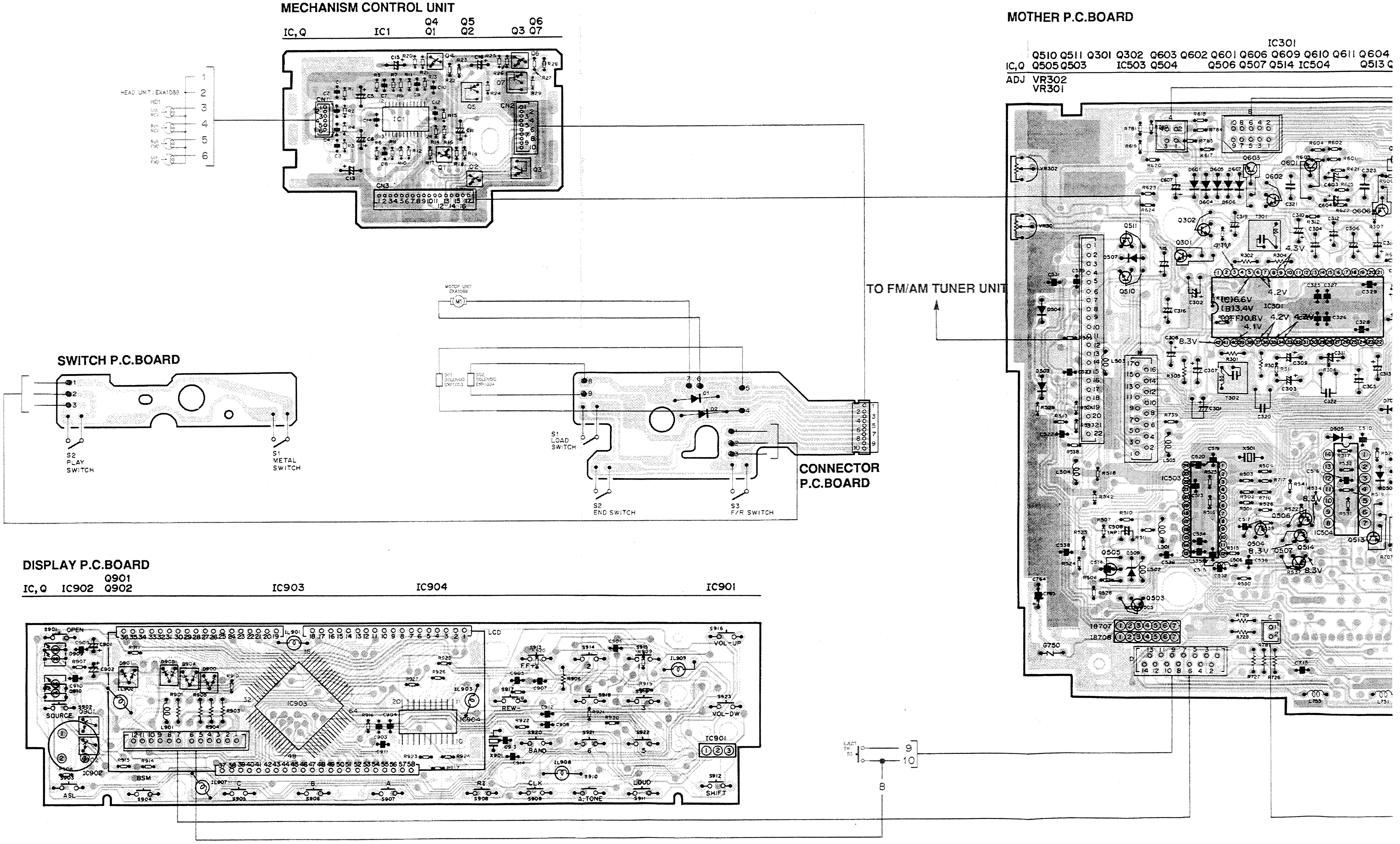
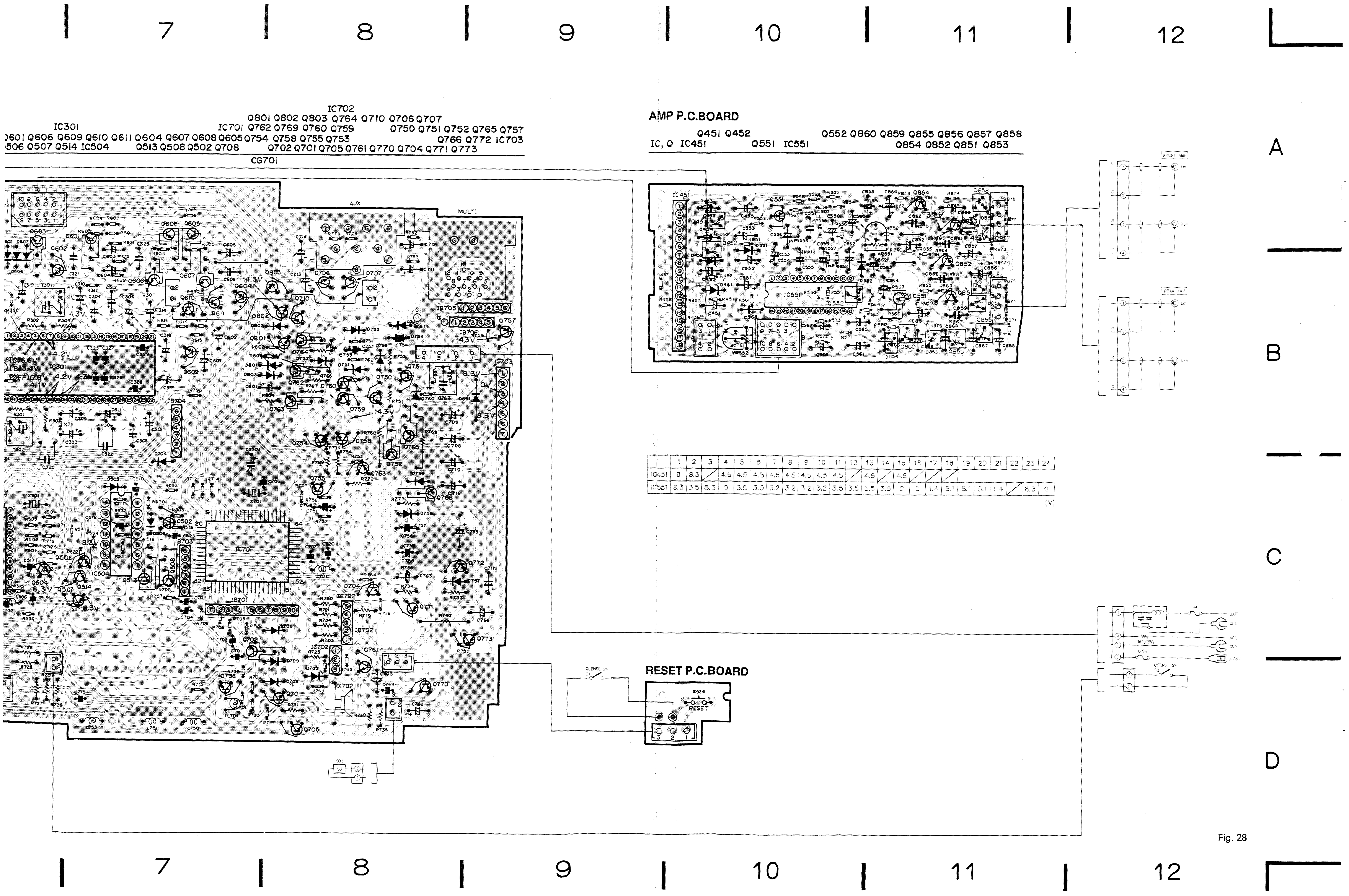

S924
RESET
3 2 1

Fig. 27

16. CONNECTION DIAGRAM (KEX-M800/UC)


1
2
3
4
5
6
A
B
C
D
MECHANISM CONTROL UNIT
IC, Q
IC1
Q4
Q1
Q5
Q2
Q6
Q3 Q7
CN1
CN2
CN3
HEAD UNIT : EXA1088
HD1
MOTHER P.C.BOARD
IC301
Q510 Q511 Q301 Q302 Q603 Q602 Q601 Q606 Q609 Q610 Q611 Q604
IC, Q Q505 Q503 IC503 Q504 Q506 Q507 Q514 IC504 Q513
ADJ VR302
VR301
TO FM/AM TUNER UNIT
SWITCH P.C.BOARD
S2
PLAY
SWITCH
S1
METAL
SWITCH
MOTOR UNIT
S1
LOAD
SWITCH
S2
END SWITCH
S3
F/R SWITCH
CONNECTOR
P.C.BOARD
DISPLAY P.C.BOARD
IC, Q
IC902
Q901
Q902
IC903
IC904
IC901
OPEN
SOURCE
LCD
VOL-UP
VOL-DW
REW
FF
BAND
BSM
ASL
CLK
A-TONE
LOUD
SHIFT
RPT
8.3V
4.3V
4.2V
4.1V
6.6V

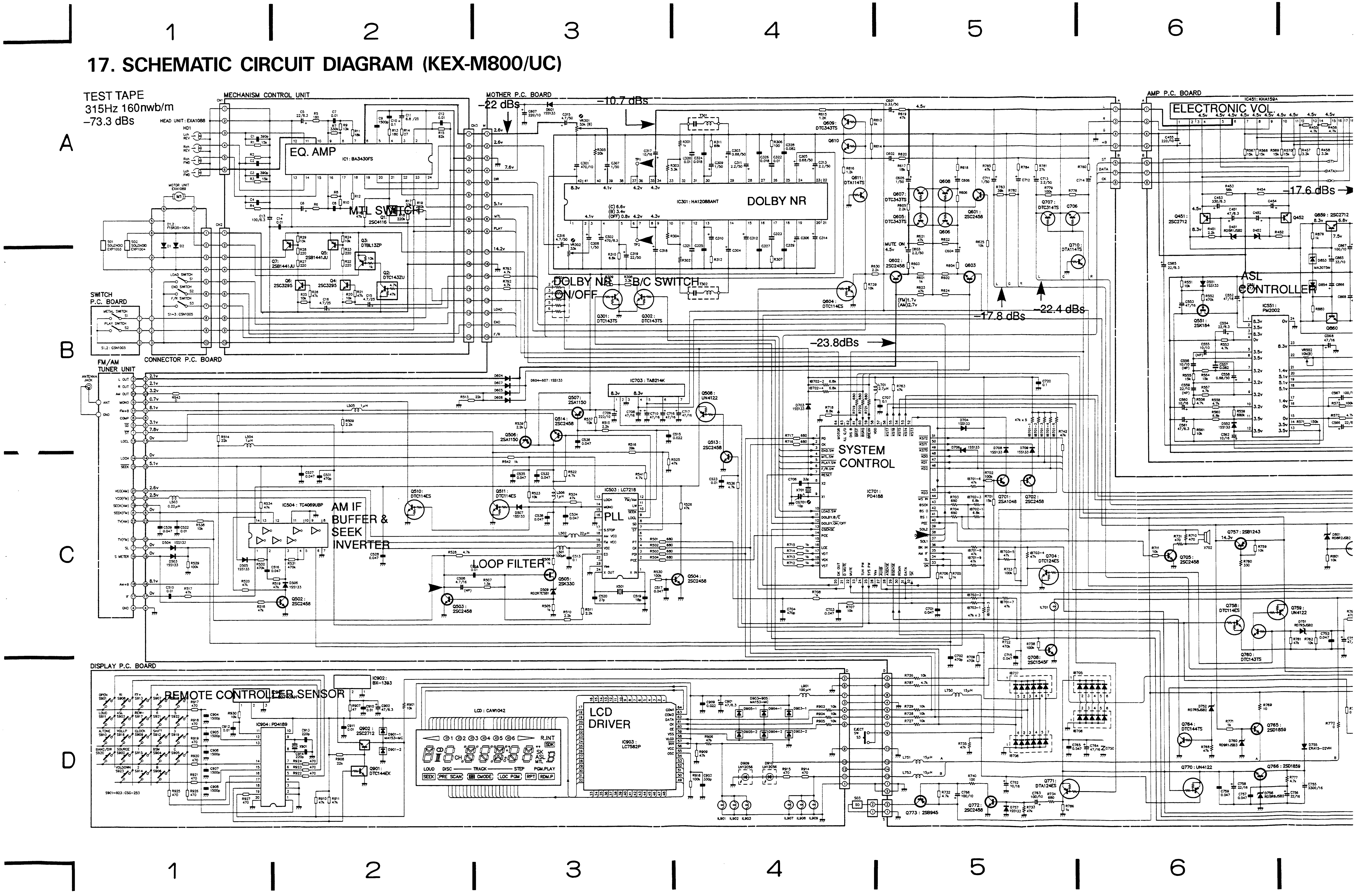

7
8
9
10
11
12
A
B
C
D
IC702
Q801 Q802 Q803 Q764 Q710 Q706 Q707
IC301
IC701 Q762 Q769 Q760 Q759
Q750 Q751 Q752 Q765 Q757
Q601 Q606 Q609 Q610 Q611 Q604 Q607 Q608 Q605 Q754 Q758 Q755 Q753
Q766 Q772 IC703
Q506 Q507 Q514 IC504
Q513 Q508 Q502 Q708
Q702 Q701 Q705 Q761 Q770 Q704 Q771 Q773
CG701
AUX
MULTI
AMP P.C.BOARD
IC, Q
Q451 Q452
IC451
Q551 IC551
Q552 Q860 Q859 Q855 Q856 Q857 Q858
Q854 Q852 Q851 Q853
FRONT AMP
REAR AMP
RESET P.C.BOARD
S924
RESET
IC701
IC301
IC504
IC551
IC451
14.3V
8.3V
4.2V
4.1V
0V

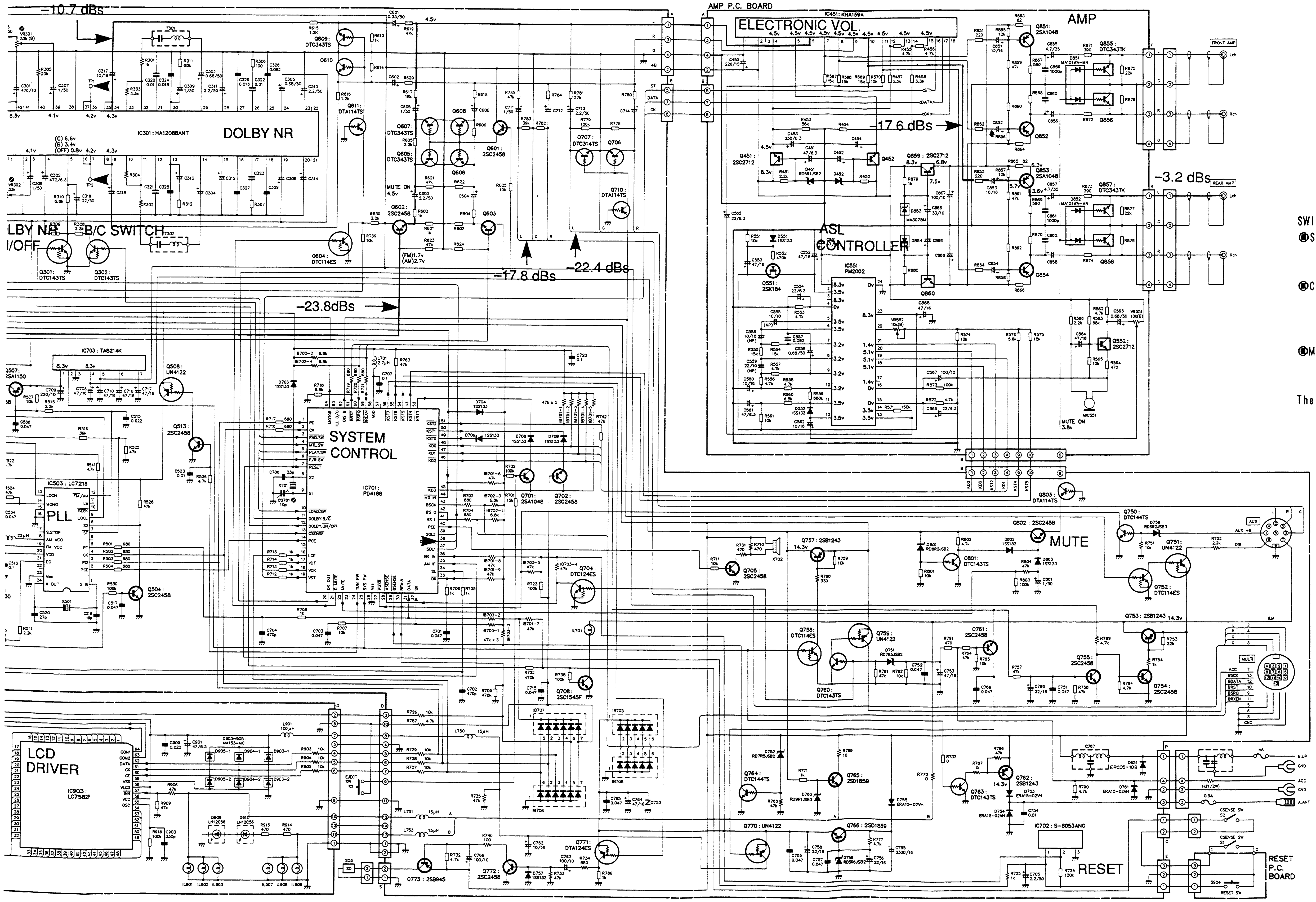
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC451	0	8.3	/	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	/	4.5	/	4.5	/	/	/						
IC551	8.3	3.5	8.3	0	3.5	3.5	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	0	0	1.4	5.1	5.1	5.1	1.4	/	8.3	0

(V)

Fig. 28

17. SCHEMATIC CIRCUIT DIAGRAM (KEX-M800/UC)


TEST TAPE
315Hz 160nwb/m
−73.3 dBs
MECHANISM CONTROL UNIT
HEAD UNIT : EXA1088
MOTOR UNIT EXA1089
EQ. AMP
IC1 : BA3430FS
MTL SWITCH
SWITCH P.C. BOARD
CONNECTOR P.C. BOARD
MOTHER P.C. BOARD
−22 dBs
−10.7 dBs
IC301 : HA12088ANT
DOLBY NR
DOLBY NR ON/OFF
B/C SWITCH
−23.8dBs
−17.8 dBs
−22.4 dBs
AMP P.C. BOARD
IC451 : KHA159A
ELECTRONIC VOL.
−17.6 dBs
ASL CONTROLLER
IC551 : PM2002
FM/AM TUNER UNIT
ANTENNA JACK
IC703 : TA8214K
IC504 : TC4069UBP
AM IF BUFFER & SEEK INVERTER
IC503 : LC7218
PLL
LOOP FILTER
SYSTEM CONTROL
IC701 : PD4188
DISPLAY P.C. BOARD
REMOTE CONTROLLER SENSOR
IC902 : BX-1393
IC904 : PD4189
LCD : CAW1042
LCD DRIVER
IC903 : LC7582P
EJECT SW S3
1
2
3
4
5
6
A
B
C
D


3
4
5
6
7
8
9
A
B
C
D
-10.7 dBs
IC301 : HA12088ANT
DOLBY NR
DOLBY NR
ON/OFF
B/C SWITCH
Q301 : DTC143TS
Q302 : DTC143TS
Q609 : DTC343TS
Q610
Q611 : DTA114TS
Q607 : DTC343TS
Q605 : DTC343TS
Q608
Q606
Q601 : 2SC2458
Q602 : 2SC2458
Q603
Q604 : DTC114ES
MUTE ON
Q707 : DTC314TS
Q706
Q710 : DTA114TS
-17.8 dBs
-22.4 dBs
-23.8dBs
AMP P.C. BOARD
ELECTRONIC VOL.
IC451 : KHA159A
AMP
Q851 : 2SA1048
Q855 : DTC343TK
Q852
Q856
Q853 : 2SA1048
Q857 : DTC343TK
Q854
Q858
-17.6 dBs
-3.2 dBs
FRONT AMP
REAR AMP
Q451 : 2SC2712
Q452
Q659 : 2SC2712
ASL CONTROLLER
IC551 : PM2002
Q551 : 2SK184
Q552 : 2SC2712
Q860
MUTE ON
IC703 : TA8214K
Q507 : 2SA1150
Q508 : UN4122
Q513 : 2SC2458
IC503 : LC7218
PLL
Q504 : 2SC2458
SYSTEM CONTROL
IC701 : PD4188
Q701 : 2SA1048
Q702 : 2SC2458
Q704 : DTC124ES
Q705 : 2SC2458
Q708 : 2SC1545F
Q757 : 2SB1243
Q802 : 2SC2458
MUTE
Q801 : DTC143TS
Q803 : DTA114TS
Q750 : DTC144TS
Q751 : UN4122
Q752 : DTC114ES
Q753 : 2SB1243
Q756 : DTC114ES
Q759 : UN4122
Q760 : DTC143TS
Q761 : 2SC2458
Q755 : 2SC2458
Q754 : 2SC2458
AUX
MULTI
LCD DRIVER
IC903 : LC7582P
IB707
IB705
IB706
Q764 : DTC144TS
Q765 : 2SD1859
Q762 : 2SB1243
Q763 : DTC143TS
Q770 : UN4122
Q766 : 2SD1859
Q771 : DTA124ES
Q772 : 2SC2458
Q773 : 2SB945
IC702 : S-8053ANO
RESET
RESET P.C. BOARD
EJECT SW

NOTE

Indicates a chip resistor.
Indicates a chip capacitor.
Indicates a chip transistor.
Indicates a chip diode.

SWITCHES:

● SWITCH P.C. BOARD
- S1: METAL SWITCH……………………ON—OFF
- S2: PLAY SWITCH……………………ON—OFF

● CONNECTOR P.C. BOARD
- S1: LOAD SWITCH……………………ON—OFF
- S2: END SWITCH……………………ON—OFF
- S3: F/R SWITCH……………………ON—OFF

● MISCELLANEOUS
- S1: CSENSE SWITCH……………………ON—OFF
- S2: CSENSE SWITCH……………………ON—OFF

The underlined indicates the switch position.

Audio Tuner Unit

Consists of
- Amp P.C. Board
- Mother P.C. Board

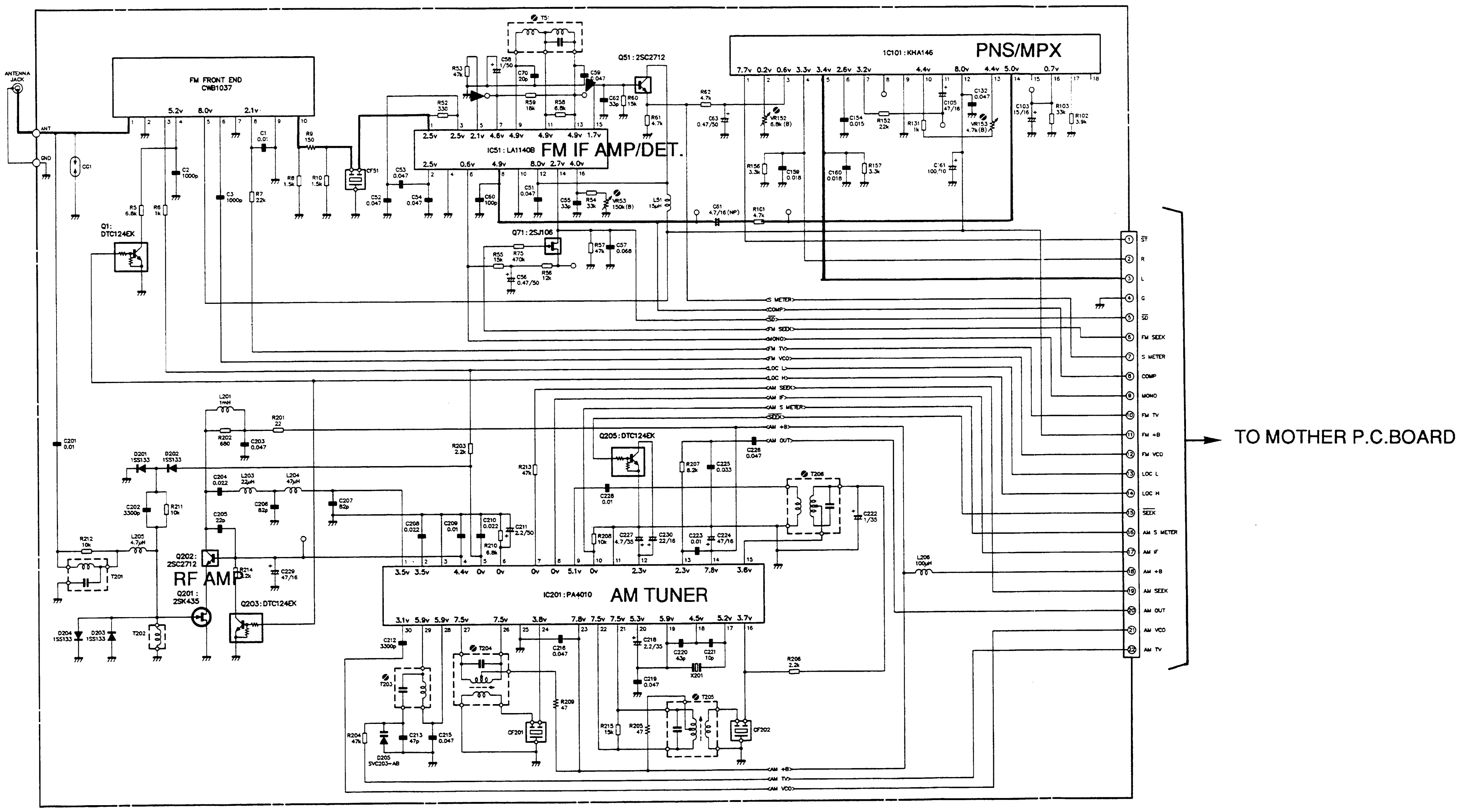
Display Unit

Consists of
- Display P.C. Board
- Reset P.C. Board

Fig. 29

18. FM/AM TUNER UNIT

- KEX-M800SDK/WG, KEX-M800/EW


ANTENNA JACK
FM FRONT END CWB1037
IC51 : LA1140B FM IF AMP/DET.
IC101 : KHA146 PNS/MPX
Q51 : 2SC2712
Q71 : 2SJ106
Q1 : DTC124EX
Q205 : DTC124EX
Q202 : 2SC2712 RF AMP
Q201 : 2SK435
Q203 : DTC124EX
IC201 : PA4010 AM TUNER
① ST
② R
③ L
④ G
⑤ SD
⑥ FM SEEK
⑦ S METER
⑧ COMP
⑨ MONO
⑩ FM TV
⑪ FM +B
⑫ FM VCO
⑬ LOC L
⑭ LOC H
⑮ SEEK
⑯ AM S METER
⑰ AM IF
⑱ AM +B
⑲ AM SEEK
⑳ AM OUT
㉑ AM VCO
㉒ AM TV
TO MOTHER P.C.BOARD

- KEX-M800/ES

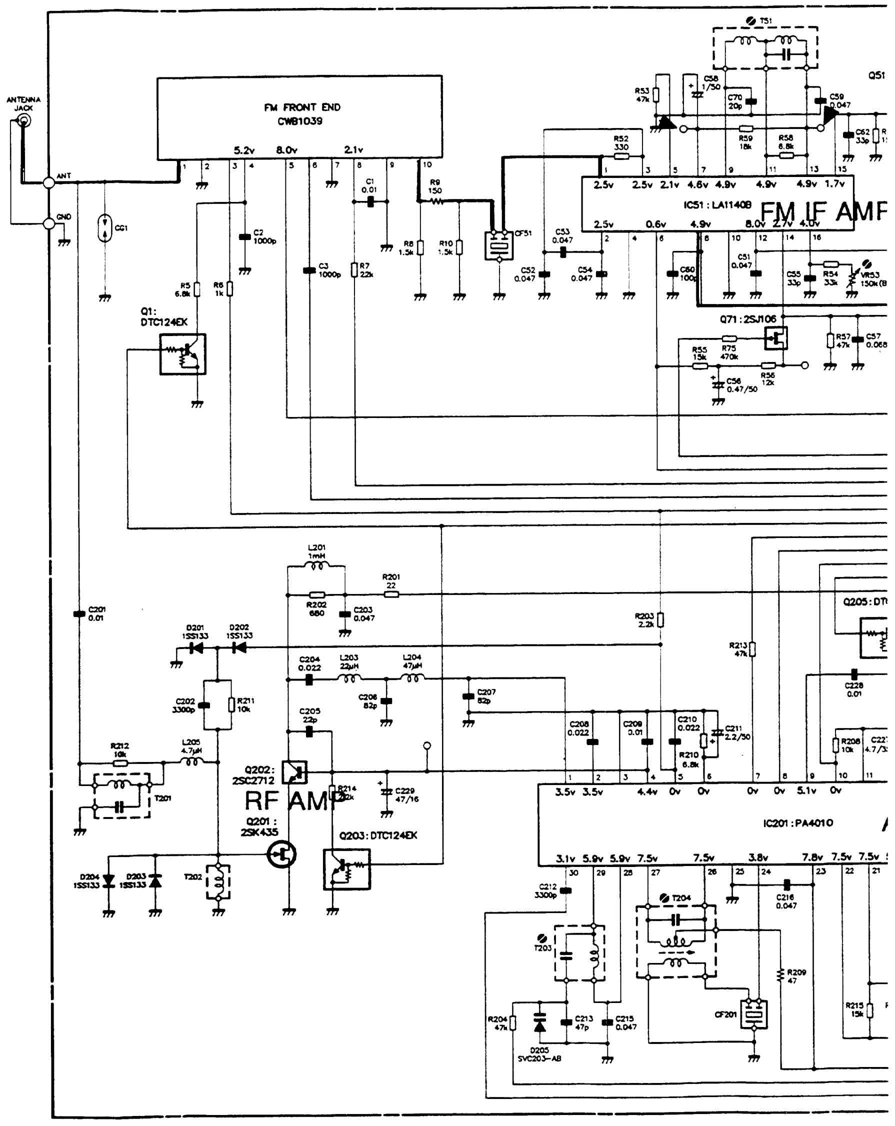
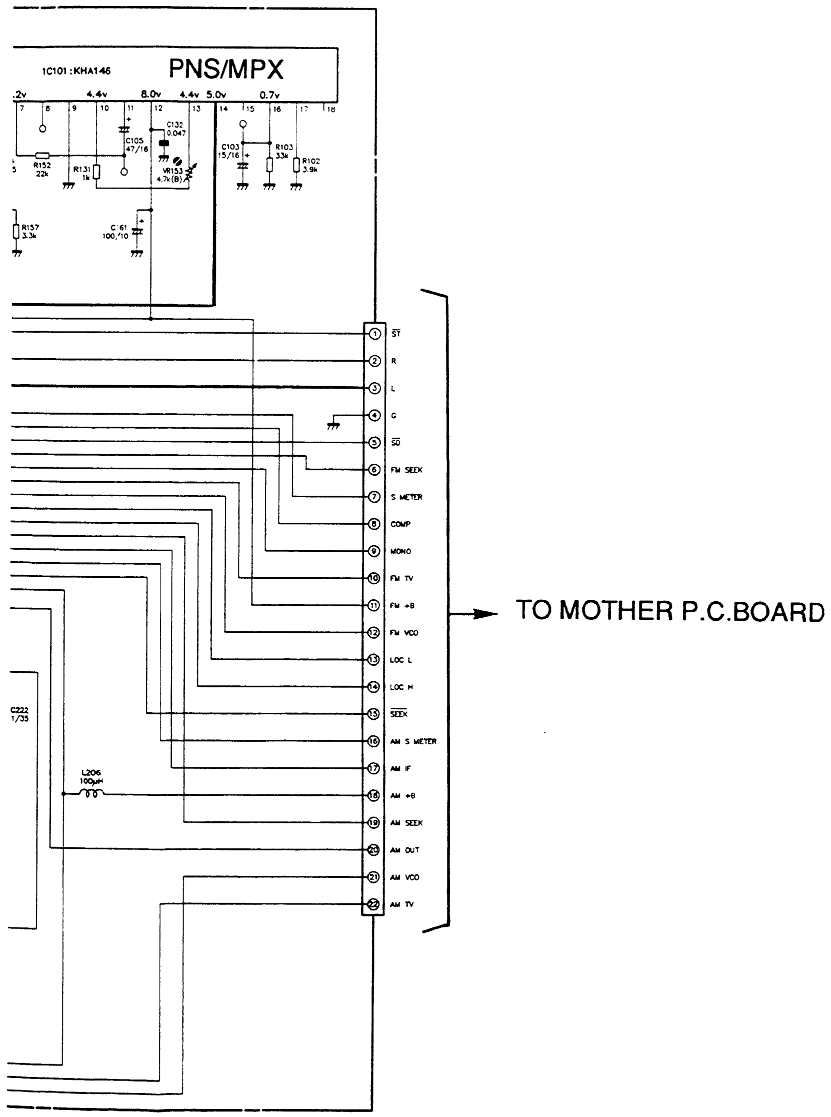

ANTENNA JACK
FM FRONT END CWB1039
IC51 : LA1140B FM IF AMP
Q71 : 2SJ106
Q1 : DTC124EX
Q202 : 2SC2712 RF AMP
Q201 : 2SK435
Q203 : DTC124EX
IC201 : PA4010

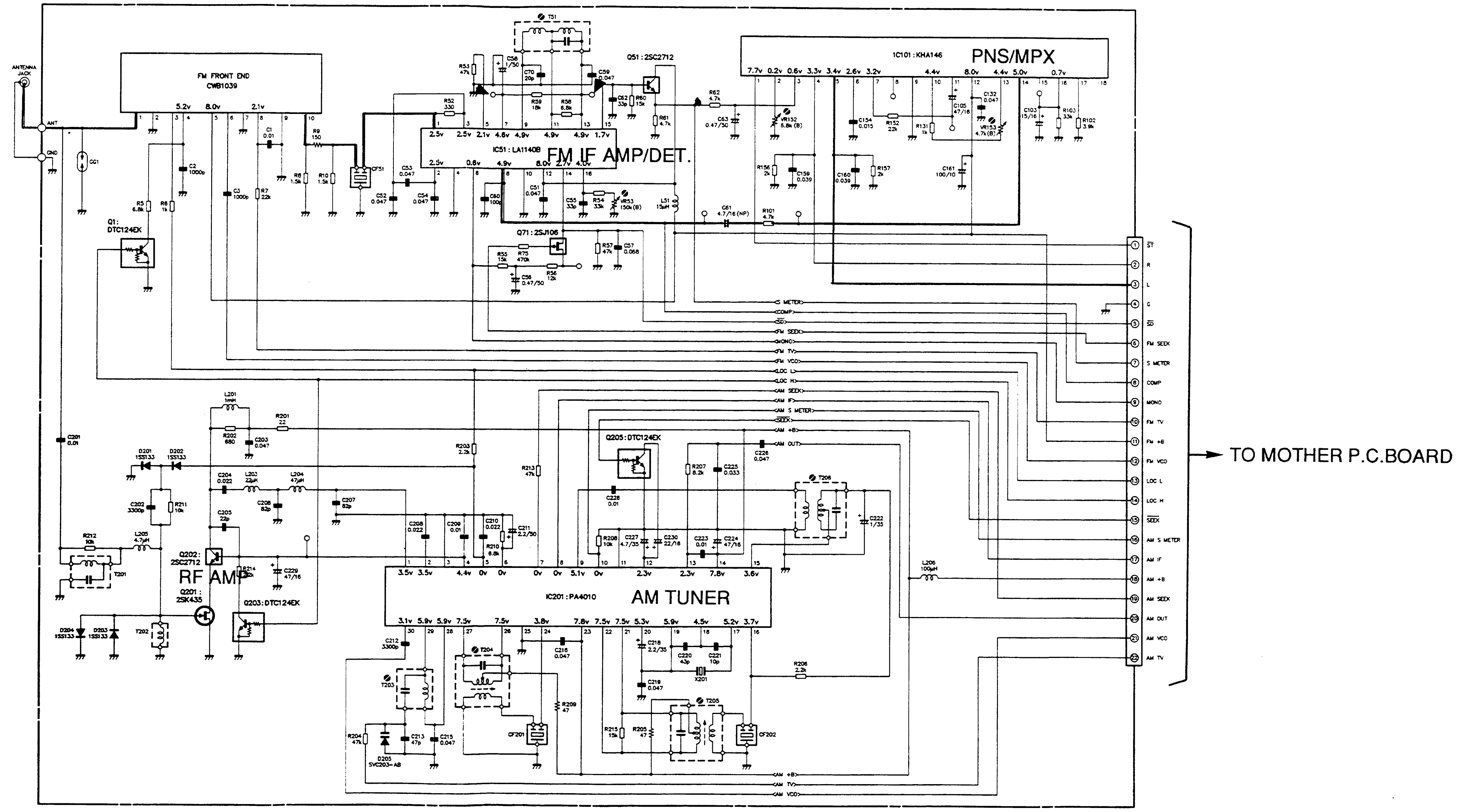
Fig. 30

• KEX-M800/ES



IC101 : KHA146
PNS/MPX
ST
R
L
G
SD
FM SEEK
S METER
COMP
MONO
FM TV
FM +B
FM VCO
LOC L
LOC H
SEEK
AM S METER
AM IF
AM +B
AM SEEK
AM OUT
AM VCO
AM TV
TO MOTHER P.C.BOARD

Fig. 30



ANTENNA JACK
FM FRONT END CWB1039
IC51 : LA1140B
FM IF AMP/DET.
Q51 : 2SC2712
Q71 : 2SJ106
T51
IC101 : KHA146
PNS/MPX
Q1: DTC124EK
Q202: 2SC2712
RF AMP
Q201 : 2SK435
Q203: DTC124EK
Q205: DTC124EK
IC201 : PA4010
AM TUNER
T201
T202
T203
T204
T205
T206
CF51
CF201
CF202
X201
D201 1SS133
D202 1SS133
D203 1SS133
D204 1SS133
D205 SVC203-AB
ST
R
L
G
SD
FM SEEK
S METER
COMP
MONO
FM TV
FM +B
FM VCO
LOC L
LOC H
SEEK
AM S METER
AM IF
AM +B
AM SEEK
AM OUT
AM VCO
AM TV
TO MOTHER P.C.BOARD

Fig. 31

• KEX-M800/UC

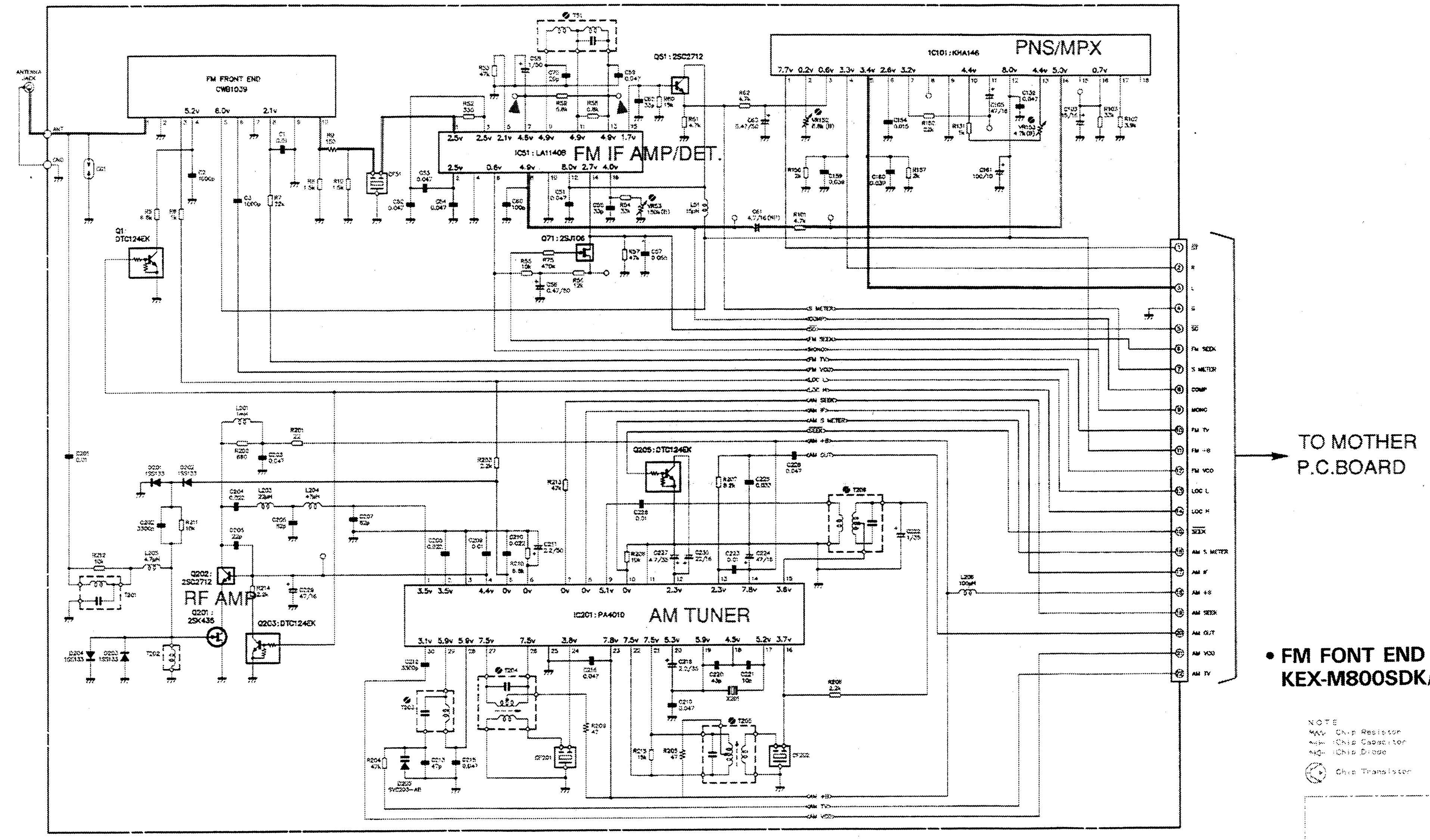
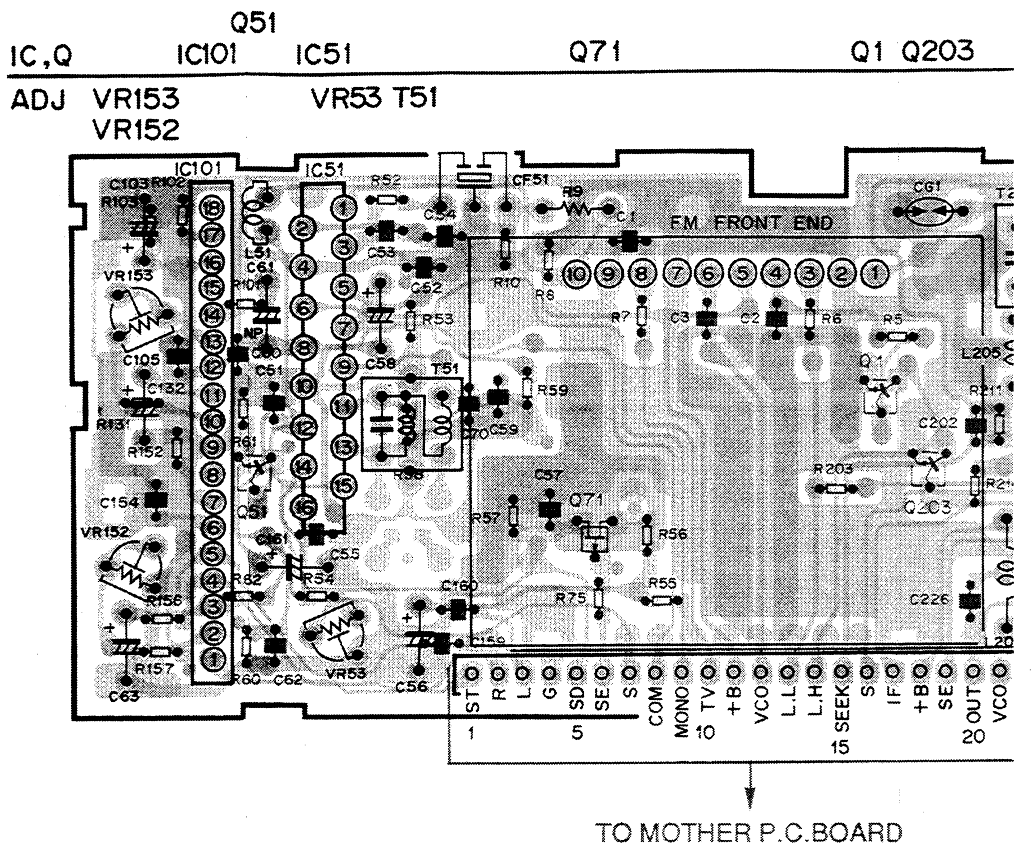

ANTENNA JACK
FM FRONT END
CWB1039
Q51 : 2SC2712
IC101 : KHA146
PNS/MPX
IC51 : LA1140S
FM IF AMP/DET.
Q71 : 2SJ106
Q1 : DTC124EK
Q205 : DTC124EK
Q202 : 2SC2712
RF AMP
Q201 : 2SK436
Q203 : DTC124EK
IC201 : PA4010
AM TUNER
TO MOTHER P.C.BOARD

Fig. 32

• KEX-M800SDK/WG, KEX-M800/EW, KEX-M800/ES, KEX-M800/UC


IC,Q
Q51
IC101
IC51
Q71
Q1 Q203
ADJ
VR153
VR152
VR53 T51
FM FRONT END
ST
R
L
G
SD
SE
S
COMP
MONO
TV
+B
VCO
L.L
L.H
SEEK
S
IF
+B
SE
OUT
VCO
1
5
10
15
20
TO MOTHER P.C.BOARD

• FM FONT END (CWB1037)
KEX-M800SDK/WG, KEX-M800/EW

NOTE
Chip Resistor
Chip Capacitor
Chip Diode
Chip Transistor

Decimal points for resistor and capacitor fixed values are expressed as
2 2→2R2
0 022→R022

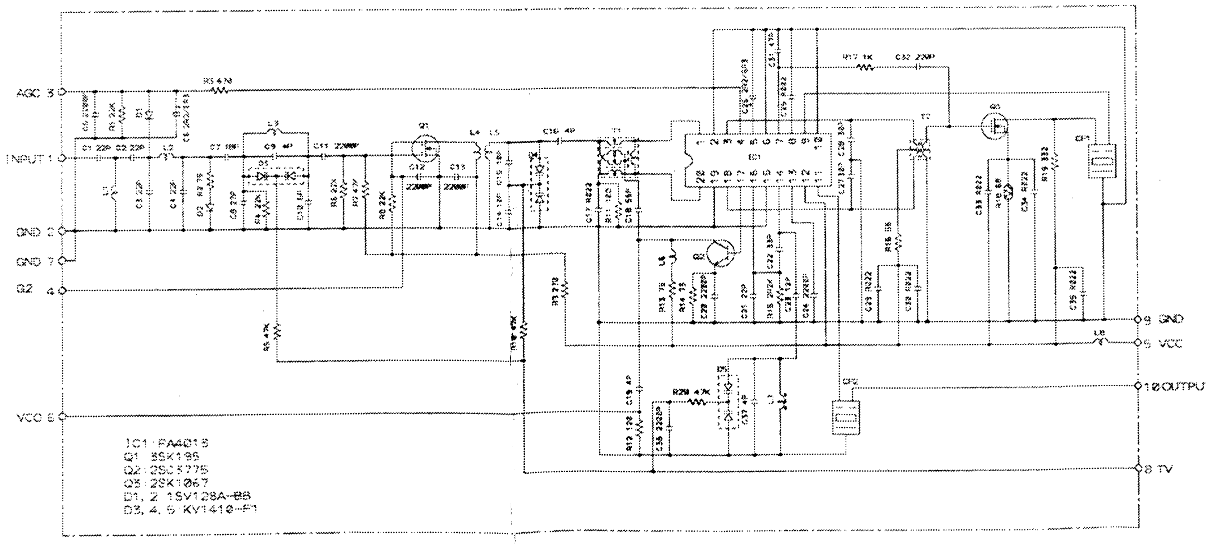

AGC 3
INPUT 1
GND 2
GND 7
G2 4
VCC 6
9 GND
5 VCC
10 OUTPUT
8 TV
IC1 : FA4018
Q1 : 3SK195
Q2 : 2SC5775
Q3 : 2SK1067
D1, 2 : 1SV128A-BB
D3, 4, 5 : KV1410-F1

Fig. 34

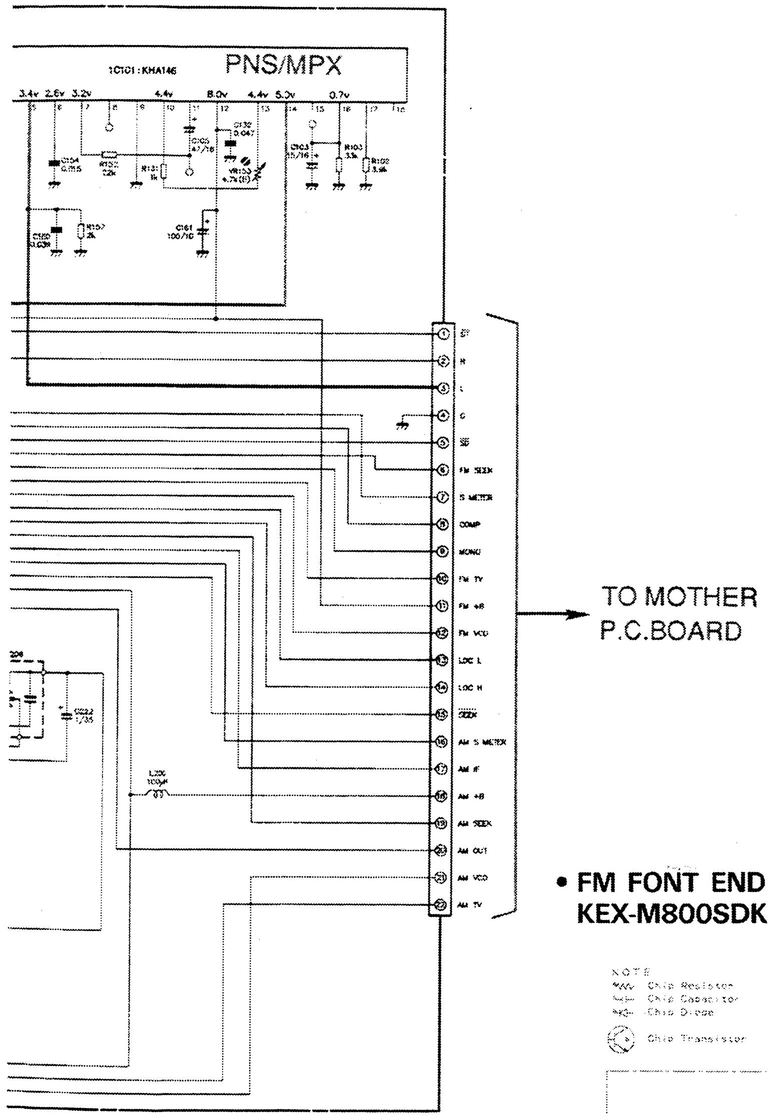

IC101 : KHA146
PNS/MPX
ST
H
L
G
SD
FM SEEK
S METER
COMP
MONO
FM TV
FM +B
FM VCO
LOC L
LOC H
SEEK
AM S METER
AM IF
AM +B
AM SEEK
AM OUT
AM VCO
AM TV
TO MOTHER P.C.BOARD

Fig. 32

• KEX-M800SDK/WG, KEX-M800/EW, KEX-M800/ES, KEX-M800/UC

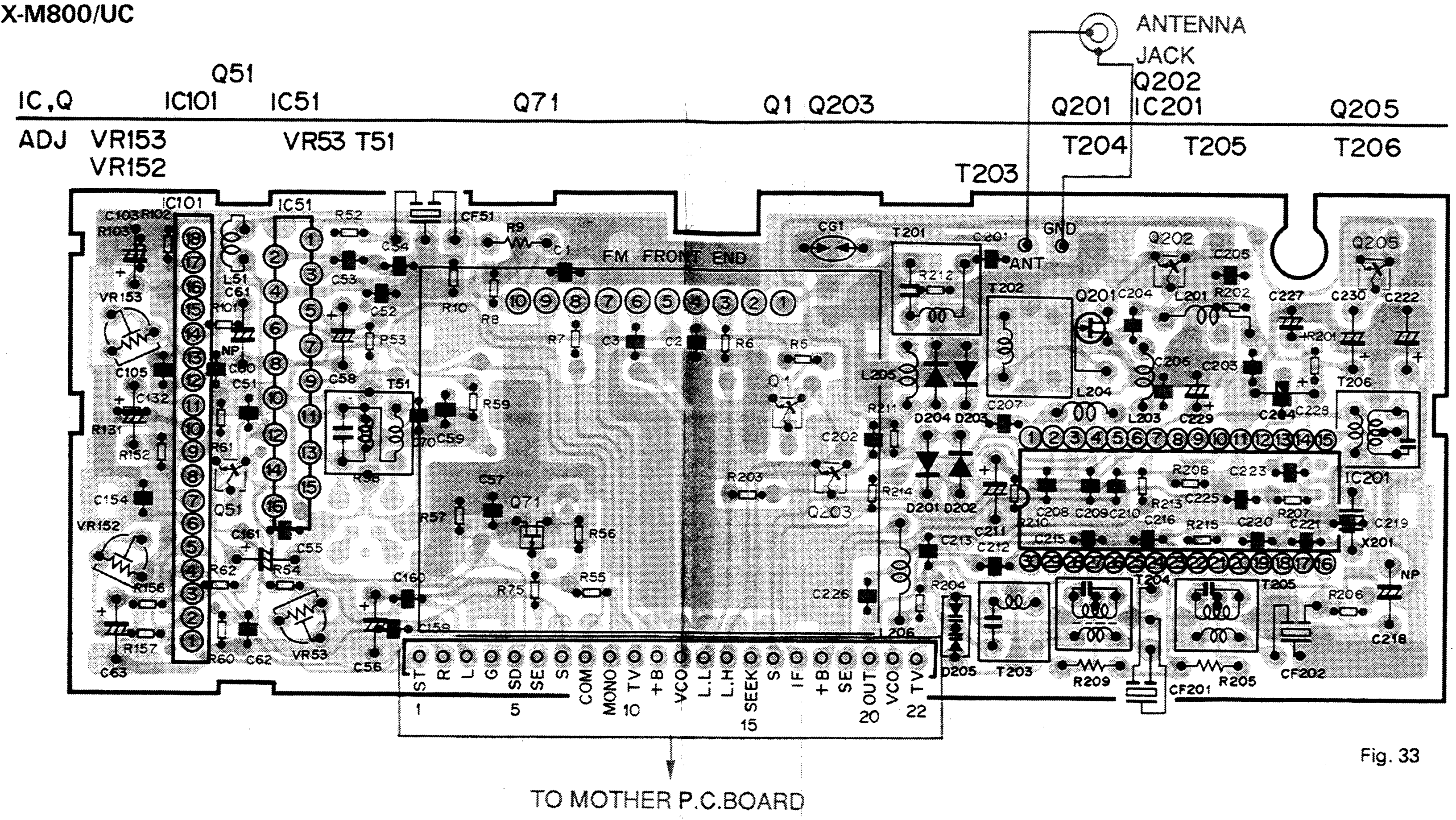

ANTENNA JACK
IC,Q
ADJ
Q51
IC101
IC51
Q71
Q1 Q203
Q201
Q202
IC201
Q205
VR153
VR152
VR53 T51
T203
T204
T205
T206
FM FRONT END
ANT
GND
ST R L G SD SE S COM MONO TV +B VCO L.L L.H SEEK S IF +B SE OUT VCO TV
1 5 10 15 20 22
TO MOTHER P.C.BOARD

Fig. 33

• FM FONT END (CWB1037) KEX-M800SDK/WG, KEX-M800/EW

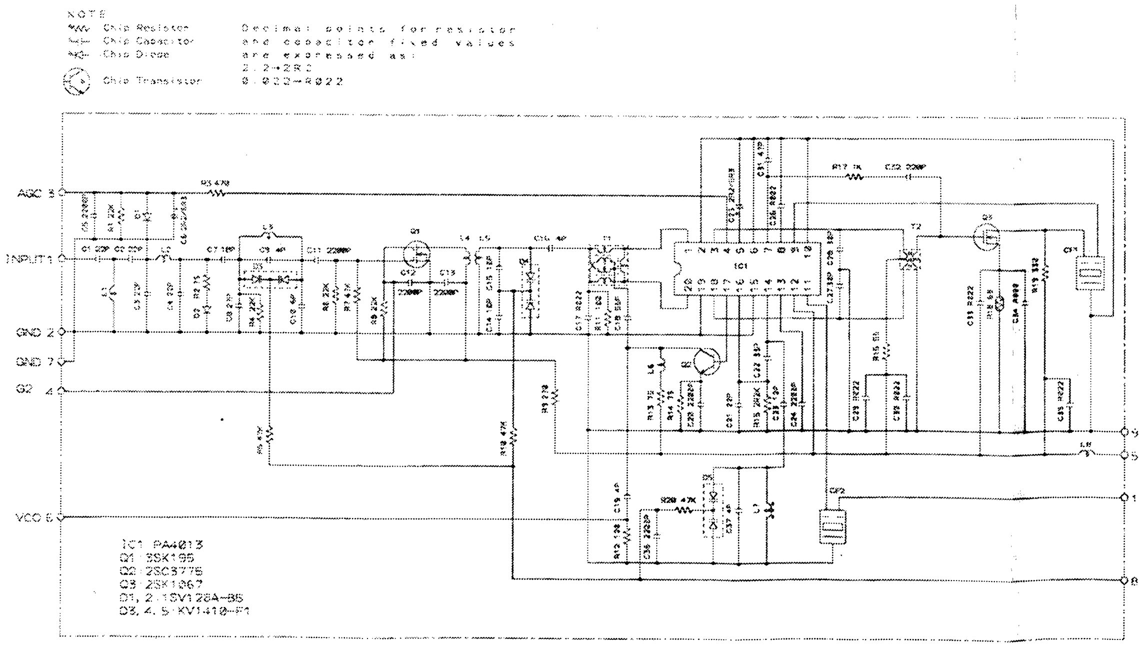

NOTE
Chip Resistor
Chip Capacitor
Chip Diode
Chip Transistor
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022
AGC 3
INPUT 1
GND 2
GND 7
G2 4
VCO 6
9 GND
5 VCC
10 OUTPUT
8 TV
IC1 PA4013
Q1 3SK195
Q2 2SC3775
Q3 2SK1067
D1, 2 1SV128A-B5
D3, 4, 5 KV1410-F1

Fig. 34

• FM FONT END (CWB1039) KEX-M800/ES, KEX-M800/UC

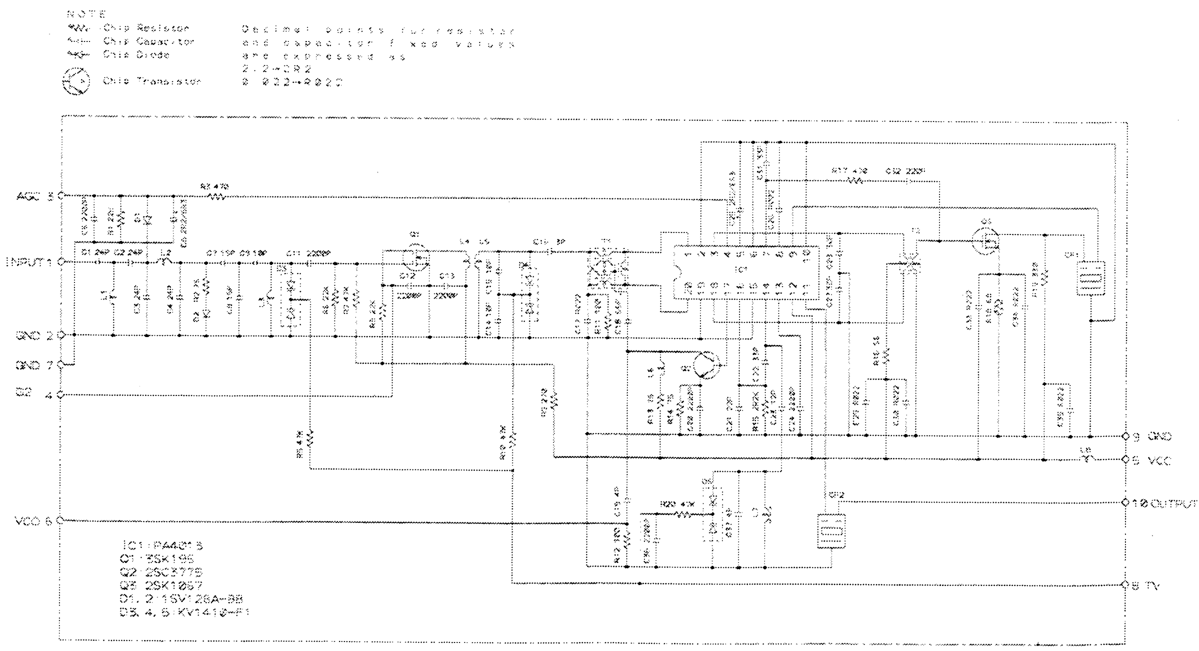
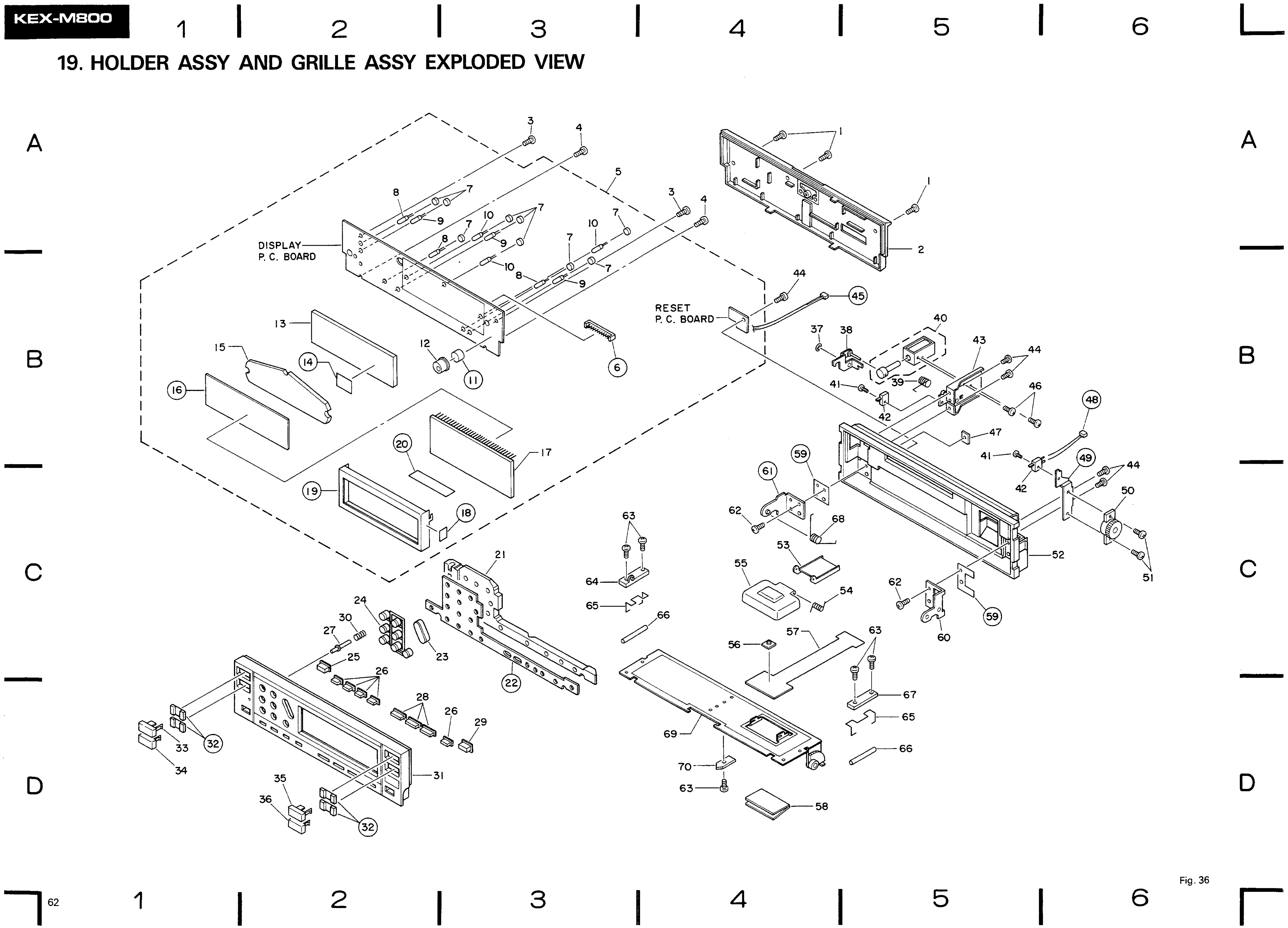

NOTE
Chip Resistor
Chip Capacitor
Chip Diode
Chip Transistor
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022
AGC 3
INPUT 1
GND 2
GND 7
G2 4
VCO 6
9 GND
5 VCC
10 OUTPUT
8 TV
IC1 PA4013
Q1 3SK195
Q2 2SC3775
Q3 2SK1067
D1, 2 1SV128A-B8
D3, 4, 5 KV1410-F1

Fig. 35

19. HOLDER ASSY AND GRILLE ASSY EXPLODED VIEW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A
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C
D
DISPLAY
P. C. BOARD
RESET
P. C. BOARD
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Fig. 36

- Parts List

Mark	No.	Des
	1	Scr
	2	Cov
	3	Scr
	4	Scr
◉	5	Dis
◉		Dis
	6	Plu
	7	Spa
★★	8	Lam
★★	9	Lam
★★	10	Lam
	11	Ins
★★	12	IC
	13	Hou
	14	Fil
	15	Len
	16	Pla
	17	LCD
	18	Fil
	19	Hol
	20	Ins
	21	Len
	22	Cus
★	23	But
★	24	But
★	25	But
★	26	But
★	27	But
★	28	But
★	29	But
	30	Spr
	31	Gri
		Gri
		Gri
		Gri
	32	Cus
★	33	But
★	34	But
★	35	But
★	36	But

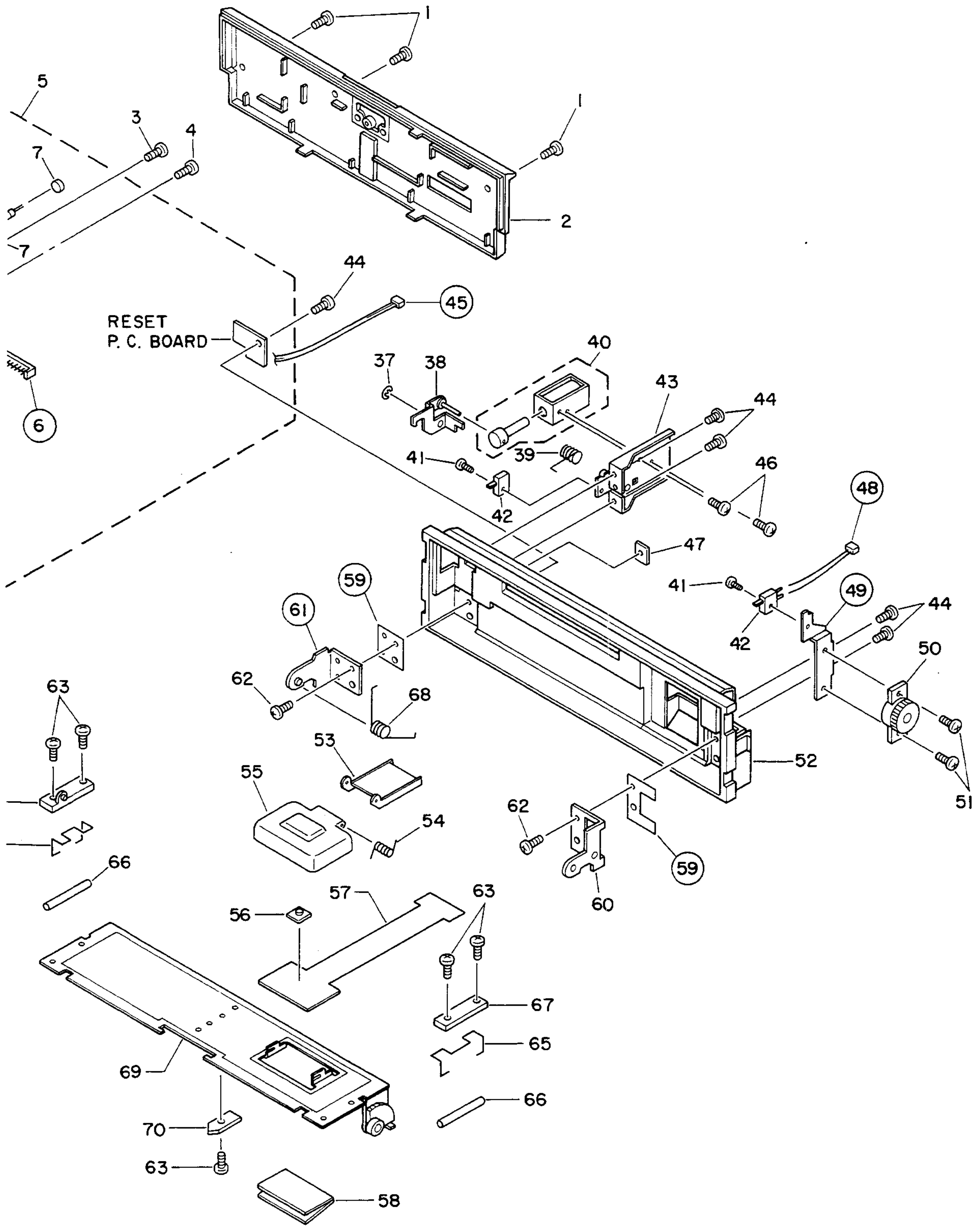
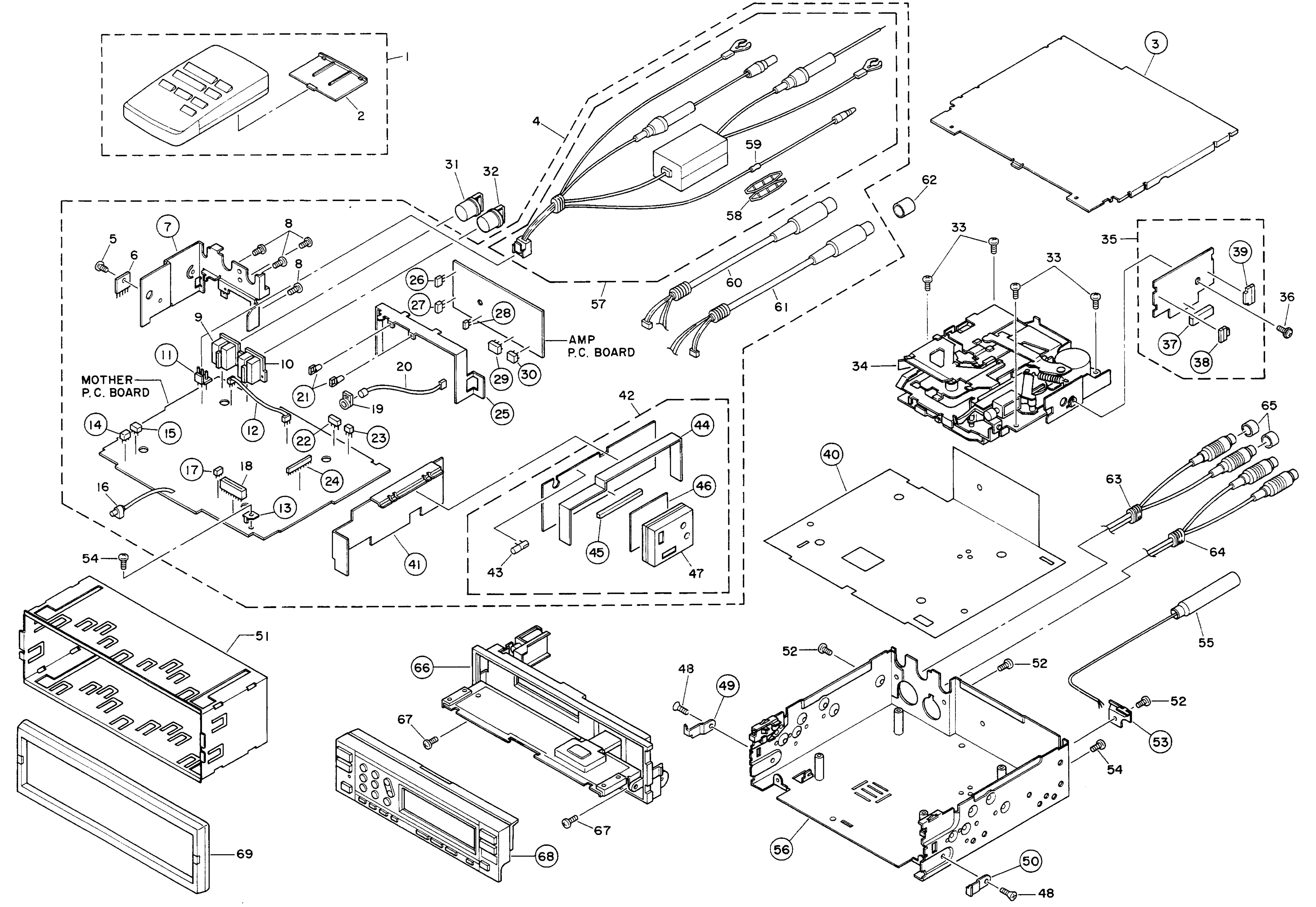


Fig. 36

- **Parts List**

Mark	No.	Description	Part No.
	1	Screw	CBA1126
	2	Cover Unit	CXA2838
	3	Screw	BPZ20P060FMC
	4	Screw	BPZ20P080FMC
◉	5	Display Unit (WG, EW)	CWS1138
◉		Display Unit (ES, UC)	CWS1144
	6	Plug	
	7	Spacer	CNW-662
★★	8	Lamp	CEL1013
★★	9	Lamp (WG, EW)	CEL-147
★★	10	Lamp	CEL1112
	11	Insulator	
★★	12	IC	BX-1393
	13	Housing	CNV2147
	14	Film	
	15	Lens	CNV2145
	16	Plate	
	17	LCD	CAW1042
	18	Film	
	19	Holder	
	20	Insulator	
	21	Lens	CNV2143
	22	Cushion	
★	23	Button	CAC2058
★	24	Button	CAC2051
★	25	Button	CAC2050
★	26	Button	CAC2059
★	27	Button	CAC2064
★	28	Button	CAC2060
★	29	Button	CAC2063
	30	Spring	CBH1275
	31	Grille Unit (WG)	CXA2833
		Grille Unit (EW)	CXA2834
		Grille Unit (ES)	CXA2836
		Grille Unit (UC)	CXA3022
	32	Cushion	
★	33	Button	CAC2048
★	34	Button	CAC2049
★	35	Button	CAC2061
★	36	Button	CAC2062
	37	E Type Washer	YE15FUC
	38	Arm Unit	CXA2658
	39	Spring	CBH1260
★	40	Solenoid	CXP1009
	41	Screw	PMZ20P050FMC
★★	42	Switch	CSN1012
	43	Bracket Unit	CXA2657
	44	Screw	BPZ20P050FMC
	45	Connector	
	46	Screw	BMZ20P025FMC
★	47	Button	CAC2000
	48	Connector	
	49	Holder	
	50	Damper Unit	CXD-766
	51	Screw	PMZ20P030FMC
	52	Grille Unit	CXA2901
	53	Door	CNV2051
	54	Spring	CBH1217
	55	Holder Unit	CXA2902
★★	56	Switch	CSG1033
	57	P.C. Board	CNP2117
	58	Socket	CKS1664
	59	Cushion	
	60	Holder Unit	CXA2661
	61	Holder	
	62	Screw	BPZ20P060FZK
	63	Screw	CBA1082
	64	Holder	CNV2050
	65	Spring	CBH1259
	66	Roller	CLA1706
	67	Holder	CNV2141
	68	Spring	CBH1216
	69	Holder Unit	CXA3082
	70	Guide	CNV2052

20. CHASSIS EXPLODED VIEW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MOTHER P.C. BOARD
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AMP P.C. BOARD
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Fig. 37

• Parts List

NOTE:

- *For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.*
  ★ ★: GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Mark	No.	Description	Part No.
	1	Remote Control Assy (WG, EW)	CXA2860
		Remote Control Assy (ES)	CXA2958
		Remote Control Assy (UC)	CXA3090
	2	Cover	CZN3224
	3	Case	
◉	4	Audio Tuner Unit (WG)	CWM1879
◉		Audio Tuner Unit (EW)	CWM1881
◉		Audio Tuner Unit (ES)	CWM1996
◉		Audio Tuner Unit (UC)	CWM1885
	5	Screw	BMZ30P060FMC
★★	6	IC	TA8214K
	7	Holder (WG, EW)	
		Holder (ES, UC)	
	8	Screw	BMZ20P060FMC
	9	Connector	CKS1144
	10	Connector	CKS1156
	11	Plug (WG, EW)	
		Plug (ES, UC)	
	12	Connector	
	13	Holder	
	14	Plug	
	15	Plug	
★★	16	Lamp	CEL-148
	17	Plug	
	18	Plug	CKS1437
	19	Holder	CNV2196
	20	Microphone Assy	CPM1003
	21	Clamper	
	22	Plug	
	23	Plug	
	24	Connector	
	25	Holder	
	26	Plug (WG, EW)	
		Plug (ES, UC)	

Mark	No.	Description	Part No.
	27	Plug (WG, EW)	
		Plug (ES, UC)	
	28	Connector	
	29	Connector	
	30	Connector	
	31	Cap	CNV1468
	32	Cap	CNV1308
	33	Screw	BMZ26P050FMC
◉	34	Cassette Mechanism Assy	EXK1430
◉	35	Mechanism Control Unit	CWM1968
	36	Screw	CBA1022
	37	Connector	
	38	Connector	
	39	Connector	
	40	Insulator	
	41	Shield Plate Unit	
◉	42	FM/AM Tuner Unit (WG, EW)	CWE1146
◉		FM/AM Tuner Unit (ES)	CWE1147
◉		FM/AM Tuner Unit (UC)	CWE1145
	43	Antenna Jack	CKX1010
	44	Chassis	
	45	Plug	
	46	Insulator	
	47	FM Front End (WG, EW)	CWB1037
		FM Front End (ES, UC)	CWB1039
	48	Screw	CMZ30P050FMC
	49	Holder	
	50	Holder	
	51	Holder	CNC1484
	52	Screw	BMZ30P050FMC
	53	Holder	
	54	Screw	BMZ26P040FMC
	55	Antenna Cable	CDH1093
	56	Chassis Unit (WG)	
		Chassis Unit (EW, ES, UC)	

Mark	No.	Description	Part No.
	57	Cord (WG, EW)	CDE2455
		Cord (ES, UC)	CDE2361
	58	Resistor	RS1/2P102JL
	59	Cap	CNS1472
	60	DIN Connector Cord (REAR) (WG, EW))	CDE2358
	61	DIN Connector Cord (FRONT) (WG, EW)	CDE2357
	62	Cap (WG, EW)	CNV1455
	63	Connector (FRONT) (ES, UC)	CDE2360

Mark	No.	Description	Part No.
	64	Connector (REAR) (ES, UC)	CDE2491
	65	Cap (ES, UC)	CNW-829
	66	Holder Assy	
	67	Screw	BMZ30P060FBK
	68	Grille Assy (WG)	
		Grille Assy (EW)	
		Grille Assy (ES)	
		Grille Assy (UC)	
	69	Panel	CNS1690

21. CASSETTE MECHANISM ASSY EXPLODED VIEW

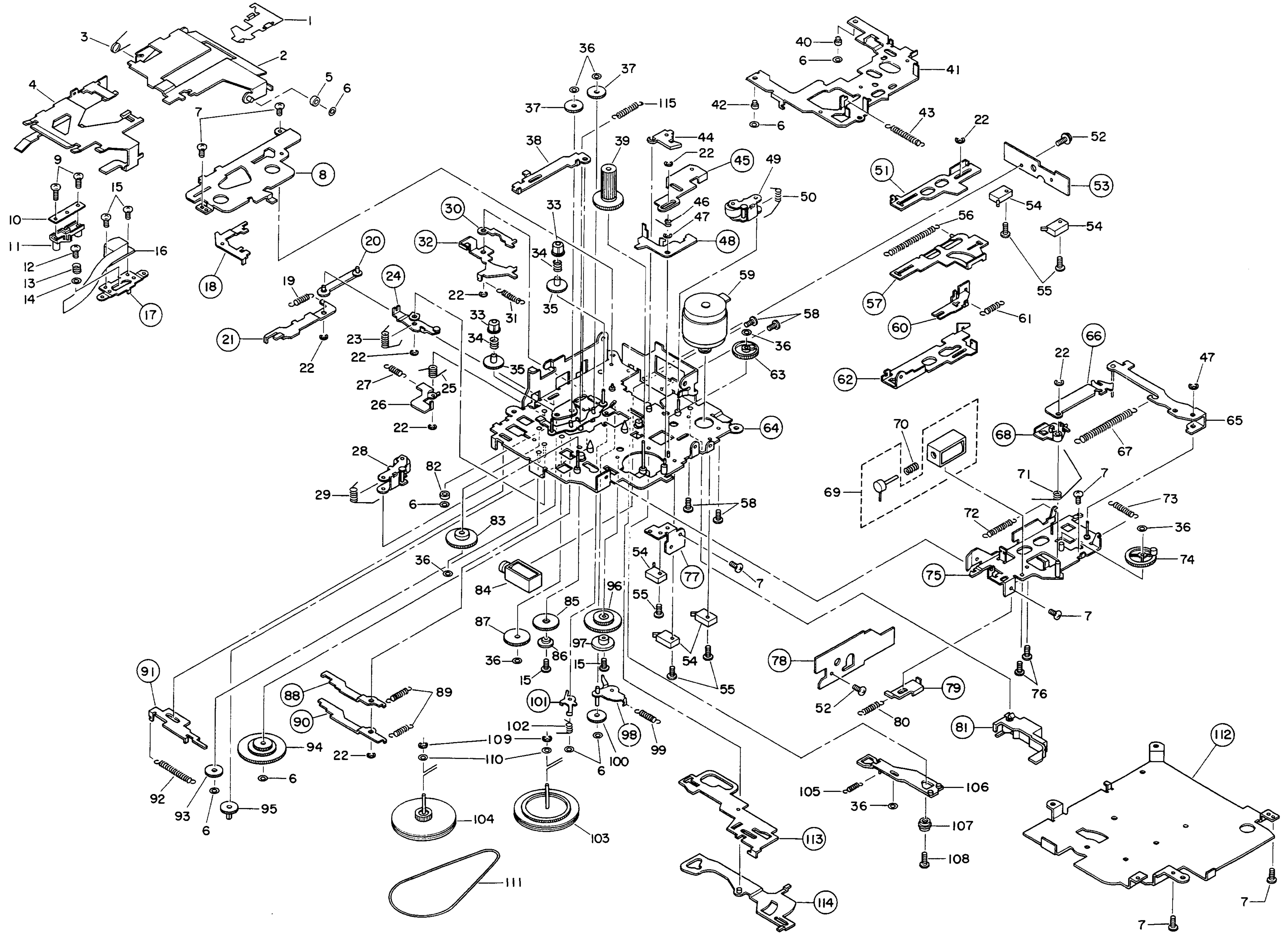
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Fig. 38

- **Parts List**

Mark	No.	Description	Part No.
	1	Lever	ENV1124
	2	Arm Unit	EXA1081
	3	Spring	EBH1152
	4	Cassette Holder	ENC1165
	5	Roller	ELA1148
	6	Washer	CBF1037
	7	Screw	BMZ20P030FMC
	8	Cover	
	9	Screw	EBA1016
	10	Spring	EBL1011
	11	Spacer	ENV1105
	12	Screw	BMZ20P025FMC
	13	Spring	EBH1145
	14	Washer	EBE1005
	15	Screw	HBA-175
★★	16	Head Unit	EXA1088
	17	Arm	
	18	Arm	
	19	Spring	EBH1143
	20	Lever Unit	
	21	Arm	
	22	Washer	YE15FUC
	23	Spring	EBH1154
	24	Arm Unit	
	25	Spring	EBH1138
	26	Arm	ENV1122
	27	Spring	EBH1142
★★	28	Pinch Roller Unit	EXA1073
	29	Spring	EBH1134
	30	Arm	
	31	Spring	EBH1144
	32	Arm	
	33	Collar	ENV1117
	34	Spring	EBH1155
★★	35	Gear	ENV1116
	36	Washer	CBF1038
	37	Gear	ENV1115
	38	Lever Unit	EXA1074
	39	Gear	ENV1107
	40	Roller	ELA1146
	41	Head Base Unit	EXA1071
	42	Roller	ELA1147
	43	Spring	EBH1131
	44	Arm	ENV1121
	45	Lever Unit	
	46	Spring	EBH1153
	47	Washer	YE20FUC
	48	Arm	
★★	49	Pinch Roller Unit	EXA1072
	50	Spring	EBH1133
	51	Lever	
	52	Screw	CBA1076
	53	P.C.Board	
★★	54	Switch	CSN1005
	55	Screw	CBA1070
	56	Spring	EBH1147
	57	Lever	
	58	Screw	PMS20P025FMC
★★	59	Motor Unit	EXA1089
	60	Lever	
	61	Spring	EBH1149
	62	Lever	
	63	Gear	ENV1106
	64	Chassis Unit	
	65	Arm Unit	EXA1082
	66	Arm	
	67	Spring	EBH1146
	68	Clamper	
★	69	Solenoid	EXP1004
	70	Spring	EBH1157
	71	Spring	EBH1151
	72	Spring	EBH1148
	73	Spring	EBH1135
	74	Gear	ENV1118
	75	Guide Unit	
	76	Screw	PMS20P022FUC
	77	Bracket	
	78	P.C.Board	
	79	Arm	
	80	Spring	EBH1158
	81	Clamper	
	82	Roller	ELA1149
	83	Gear	ENV1111
★	84	Solenoid	EXP1003
	85	Gear	ENV1109
	86	Collar	ELA1152
	87	Gear	ENV1110
	88	Arm	
	89	Spring	EBH1136
	90	Arm	
	91	Lever	
	92	Spring	EBH1137
	93	Gear	ENV1112
	94	Gear Unit	EXA1083
	95	Gear	ENV1113
	96	Gear	ENV1108
	97	Collar	ELA1151
	98	Arm Unit	
	99	Spring	EBH1141
	100	Gear	ENV1114
	101	Arm	
	102	Spring	EBH1140
	103	Flywheel	ENV1127
	104	Flywheel	ENV1128
	105	Spring	EBH1159
	106	Arm	ENV1119
	107	Collar	ELA1150
	108	Screw	HBA-183
	109	E Type Washer	CBG1003
	110	Washer	HBF-179
★★	111	Belt	ENT1011
	112	Cover	
	113	Lever	
	114	Arm Unit	
	115	Spring	EBH1139

Mark	Circuit Symbol & No.	Part Name	Part No.
*	D 756		RD5R6JSB2
*	D 759		RD6R2JSB3
*	D 760		RD9R1JSB3
*	D 761 (ES. UC)		ERA15-02VH
*	D 801		RD8R2JSB2
*	D 851 852	Chip Diode	MA151WA-MN
*	D 853 854	Chip Diode	MA3075M
	L 501	Ferri-Inductor	LAU101K
	L 502	Ferri-Inductor	LAU220K
	L 503	Inductor	LAUR22M
	L 504 505 506	Ferri-Inductor	LAU1R0M
	L 701	Choke Coil	LAU2R7M
	L 750 751 752	Inductor	LAU150K
	L 753 (WG. EW)	Inductor	LAU150K
	T 301 302	Coil	CTF1072
	CG 701	Trimmer	CCG1002
	IB 701		CWW1280
	IB 702		CWW1290
	IB 703		CWW1293
	IB 704		CWW1276
	IB 705		CWW1185
	IB 706		CWW1128
	IB 707		CWW1291
	IB 708		CWW1292
	G 750	Surge Absorber	ERZ-C07DK220
	X 501	Crystal Resonator	CSS1030
	X 502 (WG)	Ceramic Resonator	CSS1019
	X 701	Crystal Resonator	CSS1023
	X 702	Buzzer	CPV1006
**	IL 701	Lamp 14V 40mA	CEL-148
**	VR 301 302	Semi-fixed 33kΩ (B)	CCP-381
**	VR 551 552	Semi-fixed 10kΩ (B)	VRTB6VS103
	MIC551	Microphone Assy	CPM1003
		FM/AM Tuner Unit (WG. EW)	
		FM/AM Tuner Unit (ES)	
		FM/AM Tuner Unit (UC)	

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 301 302	1kΩ (1/6W)	CCN1015
	R 303 304	3.3kΩ (1/6W)	CCN1016
	R 305	20kΩ (1/6W)	CCN1018
	R 306 307		RS1/10S101J
	R 308		RS1/10S332J
	R 309 528 536 802		RS1/10S472J
	R 310		RS1/10S682J
	R 311		RS1/8S683J
	R 312		RS1/10S683J
	R 451 452		RS1/10S222J
	R 453 454		RS1/10S563J
	R 455 (WG. EW) 456 (WG. EW)		RS1/10S0R0J
	R 455 (ES. UC) 456 (ES. UC)		RS1/10S472J
	R 457 (ES. UC) 458 (ES. UC)		RS1/10S332J
	R 501 502 503 504		RS1/10S681J
	R 505 506 542 601 602		RS1/10S102J
	R 507		RS1/10S152J
	R 508 (WG)		RS1/10S222J
	R 509 510 511 515 539 630		RS1/10S222J
	R 512 (WG)		RS1/10S472J
	R 513 514 722 753		RS1/10S223J
	R 516		RS1/10S393J
	R 517 518 519 520 619 620 621 622 623 624		RS1/10S473J
	R 521 (WG) 527 (WG) 545 (WG)		RS1/10S473J
	R 522		RS1/10S472J
	R 523 537 538 625		RS1/10S103J
	R 524 541 553 556 557 558 562 572		RS1/10S472J
	R 525 526 534		RS1/10S473J
	R 529 530		RS1/10S104J
	R 531 532		RS1/10S474J
	R 533 (WG)		RS1/10S474J
	R 543		RS1/10S0R0J
	R 544 (WG)		RS1/10S471J
	R 551 561 565 574		RS1/10S103J
	R 552		RS1/10S474J
	R 554 555		RS1/10S153J
	R 559		RS1/10S684J
	R 560		RS1/10S682J
	R 563		RS1/10S683J
	R 564		RS1/10S471J
	R 566		RS1/10S222J
	R 567 (WG. EW) 568 (WG. EW) 569 (WG. EW) 570 (WG. EW)		RS1/10S393J
	R 567 (ES. UC) 568 (ES. UC) 569 (ES. UC) 570 (ES. UC)		RS1/10S153J
	R 571		RS1/10S154J
	R 573		RS1/10S104J
	R 575		RS1/10S183J
	R 576		RS1/10S562J
	R 603 604 613 614		RS1/10S102J
	R 605 606		RS1/10S222J
	R 615 616		RS1/10S122J
	R 617 618		RS1/10S183J
	R 701		RS1/10S153J
	R 702 723 738 778 779 803		RS1/10S104J
	R 703 704 719 720 721 734		RD1/4PS681JL
	R 705 706 708 712 713 714 715 771		RS1/10S102J
	R 707 (WG)		RS1/10S102J
	R 707 (EW. ES. UC)		RS1/10S103J
	R 709		RS1/10S474J
	R 710 731		RD1/4PS471JL
	R 711 759 762 765 801		RS1/10S103J
	R 716 717		RS1/10S681J
	R 718		RS1/10S682J
	R 724		RS1/10S124J
	R 725 754 767		RD1/4PS102JL
	R 726 727 728 729 751		RD1/4PS103JL
	R 732		RS1/10S472J
	R 733 735 766 768 804		RD1/4PS473JL
	R 736 (WG. EW)		RS1/10S0R0J
	R 737 (ES. UC)		RS1/10S0R0J
	R 739		RS1/10S103J
	R 740		RS1P101JL
	R 742		RS1/10S473J
	R 752		RD1/4PS222JL
	R 755 (WG. EW) 756 (WG. EW) 788 (WG. EW)		RS1/10S472J
	R 757 758 761 763 764		RS1/10S473J
	R 760		RN1/2P471JL
	R 769		RS1P100JL
	R 772 (WG. EW) 773 (WG. EW) 775 (WG. EW)		RD1/4PS102JL
	R 772 (ES. UC)		RD1/4PS0R0JL
	R 774 (ES. UC)		RD1/4PS102JL

22. ELECTRICAL PARTS LIST

NOTE:

- *For your parts Stock Control, the fast moving items are indicated with the marks ** and *.*
  *** : GENERALLY MOVES FASTER THAN *.*
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*
  Chip Resistor
  RS1/8S □□□J, RS1/10S □□□J
  Chip Capacitor (except for CQS.....)
  CKS....., CCS....., CSZS.....

Audio Tuner Unit
Consists of ● Amp P.C. Board ● Mother P.C. Board

Unit Number :
Unit Name : Audio Tuner Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 301		HA12088ANT
**	IC 451		KHA159A
**	IC 501 (WG)		KHA142
**	IC 502 (WG)		CWW1091
**	IC 503		LC7218
**	IC 504		TC4069UBP
**	IC 551		PM2002
**	IC 701		PD4188
**	IC 702		S-8053ANO
**	IC 703		TA8214K
**	Q 301 302		DTC143ES
**	Q 451 452	Chip Transistor	2SC2712
**	Q 501 (WG)		2SC2458
**	Q 502 503 504 513 514 601 602 603		2SC2458
**	Q 505		2SK330
**	Q 506 507		2SA1150
**	Q 508		UN4122
**	Q 510 (EW, UC)		DTC114ES
**	Q 510 (ES) 511 (ES) 604 (ES)		UN4211
**	Q 511 (WG, EW, UC) 604 (WG, EW, UC)		DTC114ES
**	Q 512 (WG, EW)		DTC124ES
**	Q 551		2SK184
**	Q 552	Chip Transistor	2SC2712
**	Q 605 606 607 608 609 610		DTC343TS
**	Q 611		DTA114TS
**	Q 701		2SA1048
**	Q 702 705 754 755 761 772 802		2SC2458
**	Q 704 (WG, EW, UC)		DTC124ES
**	Q 704 (ES)		UN4212
**	Q 706 707		DTC314TS
**	Q 708		2SC1545F
**	Q 710 803		DTA114TS
**	Q 750 764		DTC144TS
**	Q 751 759 770		UN4122
**	Q 752 (WG, EW, UC) 758 (WG, EW, UC)		DTC114ES
**	Q 752 (ES) 758 (ES)		UN4211
**	Q 753 757 762		2SB1243
**	Q 756 (WG, EW)		UN4122
**	Q 760 763 801		DTC143TS
**	Q 765 766		2SD1859
**	Q 767 (WG, EW)		DTC143TS
**	Q 768 (WG, EW) 769 (WG, EW)		2SB1243
**	Q 771		DTA124ES
**	Q 773		2SB945
**	Q 851 852 853 854		2SA1048
**	Q 855 856 857 858	Chip Transistor	DTC343TK
**	Q 859 860	Chip Transistor	2SC2712
*	D 451 452		RD5R1JSB2
*	D 501 (WG) 502 (WG)		1SS133
*	D 503 504 505 506 507 601 604 605		1SS133
*	D 509		RD2R7ESB1
*	D 551 552 606 607		1SS133
*	D 651		ERC05-10B
*	D 701 (ES)		1SS133
*	D 703 704 708 709 757 802 803		1SS133
*	D 706 (WG, UC)		1SS133
*	D 707 (WG)		1SS133
*	D 750 (WG, EW)		RD7R5JSB2
*	D 751 752		RD7R5JSB2
*	D 753 754 755		ERA15-02VH

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 776(WG. EW)		RD1/4PS223JL
	R 777 787		RD1/4PS472JL
	R 780 781		RS1/10S273J
	R 782 783		RS1/10S393J
	R 784 785 859 860 861 862		RS1/10S473J
	R 786		RS1/8S102J
	R 789(ES. UC)		RD1/4PS472JL
	R 790(ES. UC) 794(ES. UC)		RS1/10S472J
	R 791(ES. UC)		RS1/10S471J
	R 792 793		RS1/10S472J
	R 851 852 853 854		RS1/10S221J
	R 855(WG. EW) 856(WG. EW) 857(WG. EW) 858(WG. EW)		RS1/10S393J
	R 855(ES. UC) 856(ES. UC) 857(ES. UC) 858(ES. UC)		RS1/10S123J
	R 863(WG. EW) 864(WG. EW) 865(WG. EW) 866(WG. EW)		RS1/10S102J
	R 863(ES. UC) 864(ES. UC) 865(ES. UC) 866(ES. UC)		RS1/10S820J
	R 867(WG. EW) 868(WG. EW) 869(WG. EW) 870(WG. EW)		RS1/10S471J
	R 867(ES. UC) 868(ES. UC) 869(ES. UC) 870(ES. UC)		RS1/10S561J
	R 871(WG. EW) 872(WG. EW) 873(WG. EW) 874(WG. EW)		RS1/10S471J
	R 871(ES. UC) 872(ES. UC) 873(ES. UC) 874(ES. UC)		RS1/10S391J
	R 875 876 877 878		RS1/10S223J
	R 879 880		RS1/10S102J
	R 881(WG. EW)		RS1/10S103J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 301	470μF/10V	CCH1019
	C 302	470μF/6.3V	CCH1013
	C 303 304 305 306		CEAR68M50LS2
	C 307 308 309 310		CEA010M50LS2
	C 311 312 313 314		CEA2R2M50LS2
	C 315 316		CEA4R7M35LS
	C 317 318 762		CEA100M16LS2
	C 319		CEA220M16LS
	C 320 321 322 323		CQPA103G2A
	C 324 325 326 327		CKSQYB183J50
	C 328 329		CKSQYB823J25
	C 451		CEA470M6R3LS
	C 452		CEA470M16L2
	C 453 454		CEA331M6R3L2
	C 455		CEA221M10L2
	C 501(WG)		CEAR33M50LS2
	C 502(WG. EW)		CEAR47M50LS2
	C 503(WG)		CEA4R7M35LS
	C 504(WG)		CEA100M16LS2
	C 505(WG)		CEA101M10LS
	C 506(WG) 507(WG)		CEA470M16LS
	C 508	4.7μF/16V	CCH1005
	C 509(WG)		CKSQYB103K50
	C 510 514 522		CKSQYB103K50
	C 513 720		CKSYF104Z25
	C 515		CKSQYB223K50
	C 516 517 527 532 536 538 539 769		CKSQYF473Z50
	C 518(WG)		CQEA683J50
	C 519		CCSQCH180J50
	C 520		CCSQCH270J50
	C 528 530 534 535		CKSQYF473Z50
	C 531 702 704		CKSQYB471K50
	C 551 552 553 568		CEA470M16L2
	C 554 566		CEA220M6R3LS
	C 555 556		CEA100M10NPLL
	C 557		CQMA823J50
	C 558 563		CEAR68M50LS2
	C 559		CEA220M10NPLL
	C 560 562		CEA100M16LS2
	C 561		CEA470M6R3LS
	C 564		CEA470M16LS
	C 565(WG. EW)		CEA100M16LS2
	C 565(ES. UC)		CEA220M6R3LS
	C 567		CEA101M10LS
	C 601 602		CEAR33M50LS2
	C 603 604 713 714		CEA2R2M50LS2
	C 605 606 711 712		CEA010M50LS2
	C 607		CEA221M10L2
	C 701 703 715 751 752 757 759 765		CKSQYF473Z50
	C 705		CEA2R2M50LS2
	C 706		CCSQCH330J50
	C 707		CKSYF104Z25
	C 708 710 716 717		CEA470M16L2
	C 709		CEA221M10L2
	C 750(WG. EW)		CKSQYB223K50
	C 753		CEA470M16LS
	C 754		CKSYB103K50
	C 755		CEA332M16L2
	C 756 758 768		CEA220M16LS
	C 763 766		CEA101M10LS
	C 764		CEA470M16L2
	C 767		CCG-081
	C 801		CEA010M50LS2
	C 851(WG. EW) 852(WG. EW) 853(WG. EW) 854(WG. EW)		CEA4R7M35LS
	C 851(ES. UC) 852(ES. UC) 853(ES. UC) 854(ES. UC)		CEA100M16LS2
	C 855(WG. EW) 856(WG. EW) 857(WG. EW) 858(WG. EW)		CEA2R2M50LS2
	C 855(ES. UC) 856(ES. UC) 857(ES. UC) 858(ES. UC)		CEA4R7M35LS
	C 859 860 861 862		CKCYB102K50
	C 863(WG. EW)		CKCYB102K50
	C 864(WG. EW)		CKSQYB102K50
	C 865 866		CEA330M10LS
	C 867 868		CEA101M10LS

Unit Number :
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 51		LA1140B
**	IC 101		KHA146
**	IC 201		PA4010
**	Q 1 203 205	Chip Transistor	DTC124EK
**	Q 51 202	Chip Transistor	2SC2712
**	Q 71	Chip Transistor	2SJ106
**	Q 201		2SK435
*	D 201 202 203 204		1SS133
*	D 205	Variable Capacitance Diode	SVC203-AB
	L 51	Inductor	LAU150K

Mark	Circuit Symbol & No.	Part Name	Part No.
	L 201 (WG. EW)	Inductor	CTF1084
	L 201 (ES. UC)	Ferri-Inductor	CTF1026
	L 203	Ferri-Inductor	LAU220K
	L 204	Ferri-Inductor	LAU470K
	L 205	Ferri-Inductor	LAU4R7K
	L 206	Ferri-Inductor	CTF-157
	T 51	Coil	CTC1029
	T 201	Coil	CTB1020
	T 202	Coil	CTB1004
	T 203	Coil	CTB1040
	T 204	Coil	CTE1025
	T 205	Coil	CTE1026
	T 206	Coil	CTE1027
	CG 1	Surge Protector	DSP-201M-S00B
	CF 51	Ceramic Filter	CTF-182
	CF 201	Ceramic Filter	CTF1041 (CTF1027)
	CF 202	Filter	CTF1085 (CTF-100)
	X 201	Crystal Resonator	CSS1014
**	VR 53	Semi-fixed 150kΩ (B)	VRTB4VS154
**	VR 152	Semi-fixed 6.8kΩ (B)	VRTB4VS682
**	VR 153	Semi-fixed 4.7kΩ (B)	VRTB4VS472
		FM Front End (WG. EW)	CWB1037
		FM Front End (ES. UC)	CWB1039

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 5 58 210		RS1/10S682J
	R 6 131		RS1/10S102J
	R 7 152		RS1/10S223J
	R 8 10		RS1/10S152J
	R 9		RD1/4PS151JL
	R 52		RS1/10S331J
	R 53 57 204 213		RS1/10S473J
	R 54 103		RS1/10S333J
	R 55 60 215		RS1/10S153J
	R 56		RS1/10S123J
	R 59 (WG. EW. ES)		RS1/10S183J
	R 59 (UC)		RS1/10S682J
	R 61 62 101		RS1/10S472J
	R 75		RS1/10S474J
	R 102		RS1/10S392J
	R 156 (WG. EW) 157 (WG. EW)		RS1/10S332J
	R 156 (ES. UC) 157 (ES. UC)		RS1/10S202J
	R 201		RS1/10S220J
	R 202		RS1/10S681J
	R 203 206 214		RS1/10S222J
	R 205 209		RD1/4PS470JL
	R 207		RS1/10S822J
	R 208 211 212		RS1/10S103J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 1 201 209 223 228		CKSQYB103K25
	C 2 3		CKSQYB102K50
	C 51 52 53 54 59 132 203 215 216 219		CKSQYF473Z50
	C 55 62		CCSQSL330J50
	C 56 63		CEAR47M50LS2
	C 57		CKSYB683K25
	C 58		CEA010M50LS2
	C 60		CCSQSL101J50
	C 61		CEA4R7M16NPLL
	C 70		CCSQCH200J50
	C 103		CEA150M16LS
	C 105 224		CEA470M16LS
	C 154		CKSQYB153K25
	C 159 (WG. EW) 160 (WG. EW)		CKSQYB183K25
	C 159 (ES. UC) 160 (ES. UC)		CKSQYB393K25
	C 161		CEA101M10LS
	C 202 212		CKSQYB332K50
	C 204 208 210		CKSQYB223K25
	C 205		CCSQCH220J50
	C 206 207		CCSQCH820J50
	C 211		CEA2R2M50LS2
	C 213		CCSQCH470J50
	C 218		CEA2R2M35NPLL
	C 220		CCSQCH430J50
	C 221		CCSQCH100D50
	C 222		CSZA010K35L
	C 225		CKSQYB333K25
	C 226		CKSQYF473Z50
	C 227		CEA4R7M35LS
	C 229		CEA470M16LS
	C 230		CEA220M16LS

Unit Number :

Unit Name : Mechanism Control Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 1		BA3430FS
**	Q 1	Chip Transistor	2SC4116
**	Q 2	Chip Transistor	DTC143ZU
**	Q 3	Chip Transistor	DTBL13ZP
**	Q 4 6	Chip Transistor	2SC3295
**	Q 5 7	Chip Transistor	2SB1441JU

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 1 2 3 4		RS1/10S153J
	R 5 6 13		RS1/10S181J
	R 7 8		RS1/10S334J
	R 9 10		RS1/10S133J
	R 11 12		RS1/10S183J
	R 14		RS1/10S270J
	R 15		RS1/10S823J
	R 16 21 26		RS1/10S473J
	R 17		RS1/10S333J
	R 18 19		RS1/10S224J
	R 20 24 25 29		RS1/10S103J
	R 22 23 27 28		RS1/8S221J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 1 2 3 4		CKSQYB391K50
	C 5 6	22μF/6.3V	CCH1065
	C 7 8 14		CKSQYB103K50
	C 9		CKSQYB152K50
	C 10 12		CKSYB104K25
	C 11	6.8μF/25V	CCH1066
	C 13	100μF/6.3V	CCH1067
	C 15 16	4.7μF/25V	CCH1064

Display Unit

Consists of
- ●Display P.C.Board
- ●Reset P.C.Board

Unit Number :
Unit Name : Display Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
**	IC 901		S-80740AH
**	IC 902		BX-1393
**	IC 903		LC7582P
**	IC 904		PD4189
**	Q 901	Chip Transistor	DTC144EK
**	Q 902	Chip Transistor	2SC2712
*	D 901 903 904 905	Chip Diode	MA153-MC
*	D 909 910	LED	LN12C56
	L 901	Ferri-Inductor	LAU101K
	X 901	Ceramic Resonator	CSS1050
**	S 901 902 903 904 905 906 907 908 909 910	Switch	CSG-253
**	S 911 912 913 914 915 916 917 918 919 920	Switch	CSG-253
**	S 921 922 923 924	Switch	CSG-253
**	IL 901 902 903	Lamp 8V 60mA	CEL1112
**	IL 904(WG.EW) 905(WG.EW) 906(WG.EW)	Lamp 14V 40mA	CEL-147
**	IL 907 908 909	Lamp 14V 40mA	CEL1013
		LCD	CAW1042

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	R 901 902 904 905		RD1/4PS103JL
	R 906		RD1/4PS333JL
	R 907		RS1/10S470J
	R 908		RS1/10S223J
	R 909		RS1/8S473J
	R 910 911		RS1/10S473J
	R 912(WG.EW) 913(WG.EW)		RS1/8S471J
	R 914 915 919 920 921		RS1/8S471J
	R 916		RS1/10S104J
	R 917 918 922 923 924 925 926 927		RS1/10S471J
	R 930		RS1/10S103J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
	C 901 902		CEA470M6R3LS
	C 903		CKSQYB331K50
	C 904 905 906 907 908		CKSQYB152K50
	C 909		CKSQYB223K50
	C 910		CKSYB103K50
	C 911 912		CKSQYB103K50
	C 913 914		CCSQCH221J50

Unit Number :
Unit Name : Connector P.C.Board

Mark	Circuit Symbol & No.	Part Name	Part No.
*	D 1 2		F1SR35-100A
**	S 1 2 3	Switch(LOAD.END.F/R)	CSN1005

Unit Number :
Unit Name : Switch P.C.Board

Mark	Circuit Symbol & No.	Part Name	Part No.
**	S 1 2	Switch(METAL.PLAY)	CSN1005

Miscellaneous Parts List

Mark	Circuit Symbol & No.	Part Name	Part No.
**	S 1 2	Switch(CSENSE×2)	CSN1012
**	S 3	Switch(EJECT)	CSG1033
*	SO 1	Solenoid	CXP1003
*	SO 2	Solenoid	CXP1004
*	SO 3	Solenoid	CXP1009
**	HD 1	Head Unit	EXA1088
**	M 1	Motor Unit	EXA1089

23. PACKING METHOD

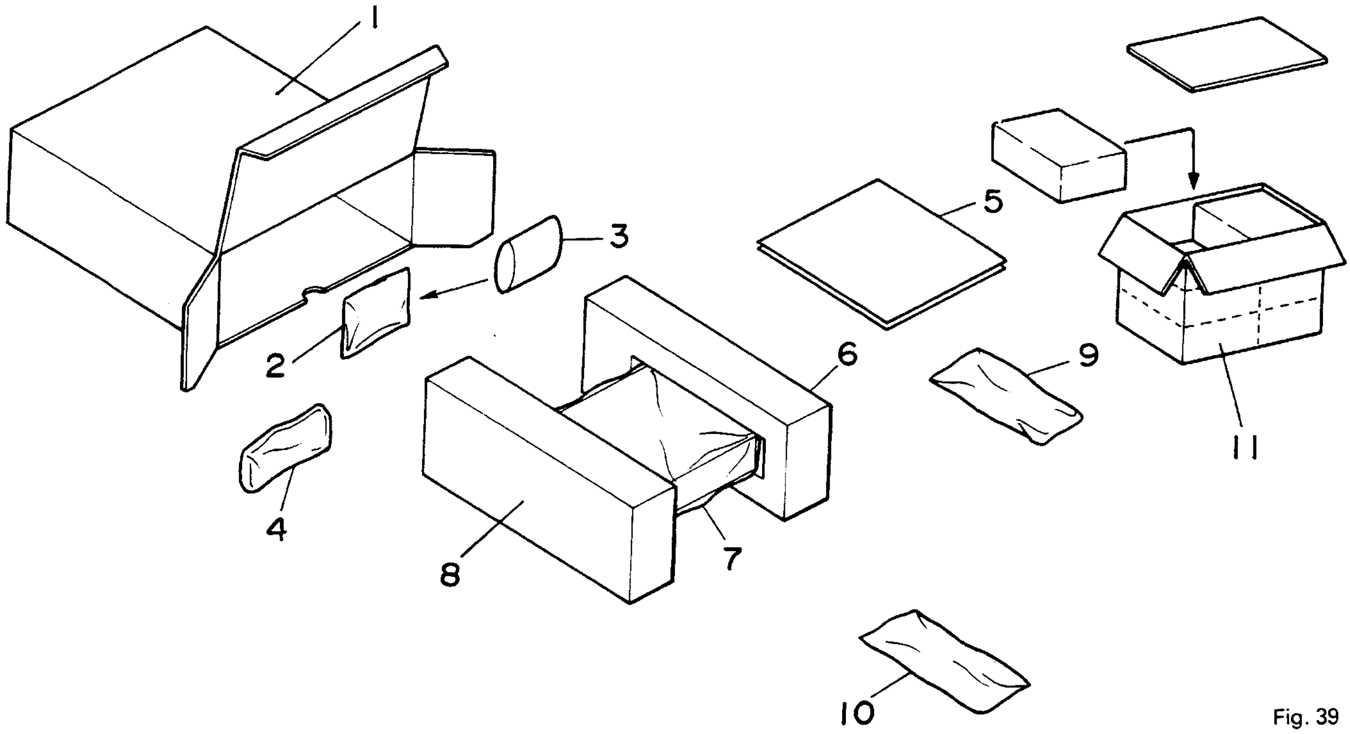

Fig. 39

• Parts List

Mark	No.	Description	Part No.
	1	Carton (WG)	CHG1595
		Carton (EW)	CHG1594
		Carton (ES)	CHG1622
		Carton (UC)	CHG1593
	2	Remote Control Assy (WG, EW)	CXA2860
		Remote Control Assy (ES, UC)	CXA2958
	2-1	Cover	CZN3224
	3	Air Cushioned Bag	CEG1055
	4-1	Battery	CEX1006
	4-2	Fastener (Rough Surface)	CNM1716
	4-3	Fastener (Soft Surface)	CNM1717
	5-1	Owner's Manual (WG)	CRD1288
		Owner's Manual (EW) (English, French, German, Spanish)	CRD1286
		Owner's Manual (EW) (Swedish, Norwegian, Dutch, Finnish)	CRD1287
		Owner's Manual (ES)	CRD1300
		Owner's Manual (UC)	CRD1289
	5-2	Caution Card (WG, EW)	
		Caution Card (ES, UC)	
	5-3	Caution Card (WG)	
	5-4	Card (WG, EW)	
		Card (UC)	
	5-5	Passport (WG)	
	6	Styrofoam (R)	CHP1212
	7	Cover	CEG1043
	8	Styrofoam (L)	CHP1211
	9	Accessory Assy (WG, EW)	CEA1426
		Accessory Assy (ES, UC)	CEA1460
	9-1	Spring (× 2)	CBH-865
	9-2	Cord (× 1)	CDE1289
	9-3	Bush (× 1)	CNV1009
	9-4	Strap (× 1)	CNF-111
	9-5	Handle (× 2)	CNC1631
	9-6	Cap (× 2)	CNV2156
	9-7	Screw Assy	
	9-7-1	Screw (× 1)	CBA-102
	9-7-2	Screw (× 1)	CBA1002
	9-7-3	Screw (× 2)	CBA1116
	9-7-4	Nut (× 2)	NF50FMC
	9-7-5	Screw (× 1) (ES, UC)	HMF40P080FUC
	10	Panel	CNS1690
	11	Contain Box (UC)	CHL1593